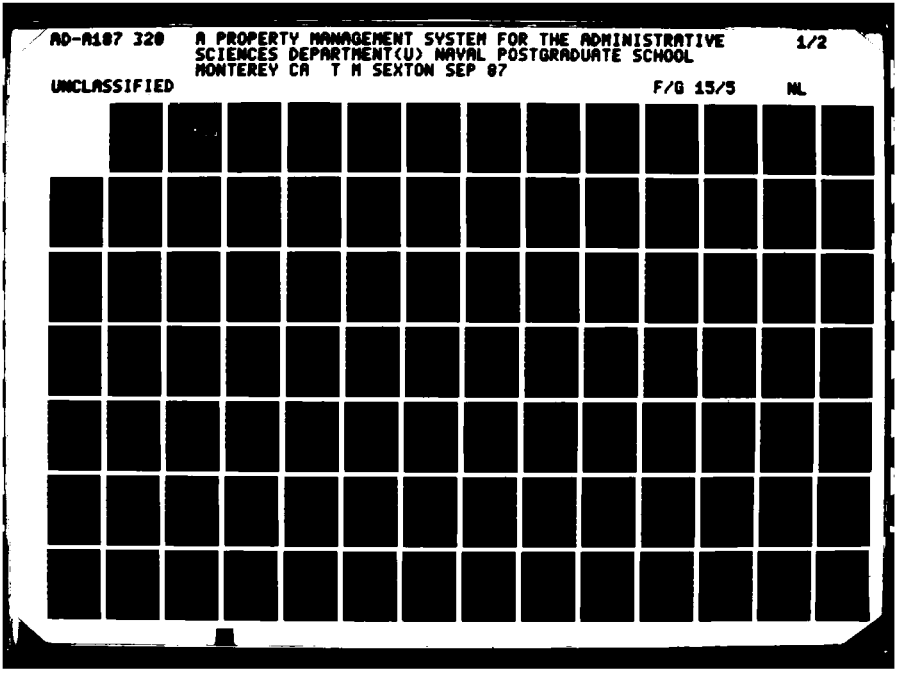
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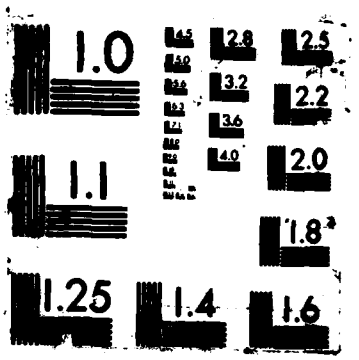
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NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

A PROPERTY MANAGEMENT SYSTEM
FOR THE ADMINISTRATIVE SCIENCES
DEPARTMENT

by

Timothy M. Sexton

September 1987

Thesis Advisor Tung Bui

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The Administrative Sciences Department (AS DEPT) of NPS maintains a considerable amount of computing and office equipment (property) to support its Students, Staff, Office, and Management Personnel. This thesis provides a relational database application - The Property Management System (PMS) to support the management and accountability of the AS DEPT property. The systems analysis and design methodology of a relational database is outlined. The implementation is undertaken on a microcomputer using dBase III plus. A data dictionary, program listings, and User's Manual are included.

PMS - Property Manual

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A Property Management System
for the Administrative Sciences Department

by

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requirements for the degree of

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ABSTRACT

The Administrative Sciences Department (AS DEPT) of NPS maintains a considerable amount of computing and office equipment (property) to support its Students, Staff, Office, and Management Personnel. This thesis provides a relational database application - The Property Management System (PMS) to support the management and accountability of the AS DEPT property. The systems analysis and design methodology of a relational database is outlined. The implementation is undertaken on a microcomputer using dBase III plus. A data dictionary, program listings, and User's Manual are included.

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I. INTRODUCTION

A. BACKGROUND

A structured analysis was conducted in 1984 to determine the computing needs of the Administrative Sciences Department (AS DEPT) of the Naval Postgraduate School (NPS). This analysis defined three different sub-systems:

1. Financial
2. Personnel
3. Property

to keep track of all information pertaining to the management and control of departmental activities. A prototype system was developed and implemented in 1986 in part as a feasibility study, implementing some of the features of each subsystem outlined in the previous analysis. The prototype proved the system feasible by showing that many of the manual procedures could automated. [Ref. 1,2]

However, various factors lead to the decline of use, and ultimate abandonment of the prototype. The limited amount of information provided in any of the three sub-systems was the major complaint. This motivated the AS DEPT to select the Property sub-system for full development.

The term "property" used in this thesis does not connote the meaning of real estate. Throughout this thesis the term "property" will be used to refer to equipment and accessories for which the AS DEPT desires to maintain accountability. The AS DEPT maintains a considerable amount of office and computing equipment to support department office personnel, teaching staff, and students. This property is either assigned to, or made available for use both on and off campus. Faced with a small office staff, and a high turnover rate, property accounting never received the attention desired by management.

B. PURPOSE

This thesis has two main objectives:

1. Design, develop, and implement a database application - the Property Management System (PMS), to improve the property accountability for the Administrative Science Department of the Naval Postgraduate School.
2. Outline the database development process using this application as an example.

The first objective of this thesis should assist the AS DEPT in managing department resources, provide better services, as well as furnish the administrative accounting requirements established by the Naval Postgraduate School for certain classifications of property. By centrally automating the property accounting function, timely information can be provided quickly and accurately. Therefore this will assist in planning both service support and property acquisition.

Database system development is similar to other type business applications, but can be more complicated due to the amount of data stored, and the degree of sharing involved. This thesis uses the generally accepted methodology known as systems analysis and design (SAD) to accomplish the database development. SAD is a six step methodical and iterative process as the system moves from concept to implementation. These six steps or stages make up the system life cycle. The steps are:

1. problem definition
2. feasibility study
3. analysis
4. design
5. implementation
6. maintenance

To achieve the second objective of this thesis, the focus will be on the system design, and implementation steps of the life cycle. The previous life cycle steps were in essence performed in the earlier structured analysis and system prototype. However, the process of designing the Property Management System required the verification and update of prior works to correct identified inadequacies. The purpose in outlining the design, and implementation is to assist in the system maintenance, by providing the rationale behind these key decisions.

C. CHAPTER DESCRIPTION

Chapter II reviews database development activities which provides the framework for the PMS development. Design and implementation concerns related to the PMS application will be presented using this framework as an outline.

Chapter III discusses usability and expandability issues. Usability pertains to prevalent system operation supported by the PMS application. Capabilities beyond standard data requests are addressed for qualified dBase III plus programmers. Finally the chapter presents the author's opinions on the PMS expandability.

The appendices provide useful documentation for maintenance and system operation. In Appendix A, the data dictionary includes descriptions of files and data elements. Appendix B contains the program listings of the installed system. The user's manual is reproduced in Appendix C. It serves as a reference for the user providing direction and operation guidance.

II. PMS SYSTEMS ANALYSIS AND DESIGN

A. METHODOLOGY

1. Analysis

As stated in the previous chapter the development of the Property Management System began with the analysis stage of the system analysis and design life cycle. The focus of analysis is logical, concentrating on what needs to be done, not how. During analysis goals and constraints are identified for the user's approval. Yourdon, a major proponent of Structured Analysis techniques calls this package specification [Ref. 3: p. 51].

As the system moves toward development it is imperative for the analyst to functionally understand the system to be developed. A set of tools are available to assist in analysis. Two such tools are the Data Flow Diagram (DFD) and, the Data Dictionary.

The DFD is the primary means for the analyst to communicate this understanding to the user. A DFD is an idealized model of the proposed system ignoring implementation details. It is used to describe graphically the contents and behavior of the system. A DFD reflects the system functions that must be performed, identifying the data, data flows, data stores, and processes involved in transforming the data. Additionally, a DFD outlines the system boundaries by identifying the sources and destinations of data.

The data dictionary is used for supporting documentation. A data dictionary is a collection of data about the data. Data elements are defined and described, sources and use are also identified.

The final output of analysis is a physical constraints document. User requirements not involved with the logical model of the system that limit design are outlined. This is a text of specifications that are physical in nature. Examples are hardware selection, interactive processing or specified response times.

2. Design

The next stage of development is system design. Database design is a two step process. The first step is logical database design and involves building a logical

data structure called a schema, conceptual schema, .or logical schema. The next step entails translating the logical schema into a physical design. Physical design is dependent upon the particular database management system (DBMS) used for implementation. [Ref. 4]

Relations, tuples, and attributes are the elements of a relational database. Relations correspond to files, tuples to records, and attributes to data elements respectively. The contents of a tuple are a fixed number of attributes, the set of possible values of an attribute comprise the domain for that attribute. The DFD and data dictionary are excellent sources for these values.

A database logical structure is an overview of the data. It consists of determining the relations and the relationships between them. The approach to logical design involves aggregating and classifying data according to different user's views (meanings) of the data. Data is consolidated to represent the relations according to these user perceptions. A data structure diagram is one method to represent a logical structure. Like a DFD it is a graphic representation and used to model the database. This diagram illustrates the associations between relations. Four relationships are possible: none, one-to-one, one-to-many, and many-to-many.

A relation has certain identifiable properties. A relation is a flat file, each row (tuple) has a fixed number of fields (attributes). All tuples are unique with no duplicates allowed. A key uniquely identifies a tuple. The key may be a single attribute or a set of attributes. It is possible to have more than one key, and a primary key must be chosen. Alternate keys are referred to as candidate keys. Every relation has a key, since in the worst case a combination of all the attributes could be the key.

Relational database theory has outlined some important considerations in developing alternative logical schema. To eliminate inconsistencies within the database, redundancy needs to be minimized. Anomalies are consistency problems that arise due to data redundancy and are resultant of operations on the relations such as update, insertion, and deletion of attributes or tuples. To reduce these problems, larger relations are decomposed or projected into smaller relations. The projection is done vertically, selecting a common attribute between the two relations. If necessary the information can be recreated by joining the two smaller relations. Schema design is the essence of normalization outlined in relational database theory. [Ref. 5]

The second stage of database design involves transforming the logical schema into physical data constructs and designing the program modules necessary to manipulate the data. Two languages specific to a DBMS are provided for these purposes. Data constructs are declared using the Data Definition Language (DDL). This process requires specifying field, record, and file formats, and their constraints. Programs are created using the Data Manipulation Language (DML). Program modules are designed to manipulate the database to furnish desired outputs as well as providing the means to store the data. A hierarchy diagram is one method used to depict the structure of the program relationships.

B. PROPERTY MANAGEMENT SYSTEM DEVELOPMENT

1. Analysis

To begin designing the Property Management System interviews were conducted with the principal users to identify their needs and desires to provide the accountability of departmental property. The department at present has no established procedures and no one single individual assigned to maintain property. This makes it necessary to interview most of the AS department office personnel.

A number of interviews were conducted with the NPS property manager to identify items missed during the users interviews. It was a stated requirement of the AS department Chairman to maintain accountability within the schools guidelines. Upon completion of the interviews with the NPS property manager it was concluded that the transactions and data elements requested by the AS office personnel would provide the necessary information to maintain the accountability established by the NPS property manager.

The school requires that a DD1342 paper document be kept up to date and on file with the property manager for all plant property. A new classification - minor property, will have similar accountability requirements. Since at this time the requirements had not been established for minor property, the new system will provide the same accountability as plant property for all department property. This should meet the schools policy, once established, requiring minor changes if any. With the data elements identified it will be possible to identify and locate all AS department plant property and provide the information necessary to keep the DD1342 accurate.

The following physical constraints and requirements were compiled from the interviews:

1. The proposed system will be implemented on an IBM XT microcomputer, which the AS DEPT already owns. The existing daisy wheel printer is also to be utilized. The micro has two 10 MB hard disk drives, all of which may be utilized.
2. The proposed system will be on-line thereby allowing entries, deletions, and modifications as transactions occur.
3. The proposed system will be written with dBase III Plus which is much more familiar to department personnel and has a much greater chance of being maintained. The new system will be both interactive and menu-driven. It will also require minimal training for the user, given they are in possession of a general familiarity with the operation of microcomputers. A comprehensive user's manual will be provided to assist in training.
4. The new DBMS will provide the ability to answer ad-hoc queries concerning all necessary inventory information of the accountable property of the AS department. The data is to include a physical item description, the actual physical location of the item, the individual charged with the custody of the item, how the item is configured, and financial accounting information (price and requisition number). Queries will be provided to answer questions (singly or categorically) about items, custodians, property types and numbers, or locations of all the department property inventory. The new DBMS will also provide summary and report data for a quarterly department inventory report.

Basic transactions and data elements were extracted and identified from the interviews. A preliminary data dictionary and a data flow diagram were presented to the department supervisor along with the above requirements. The data elements were intentionally left from the DFD, see Figure 2.1. The DFD was used at this point to verify the system boundaries and basic transactions. This proved a useful method in extracting the user views, beginning the design process.

2. **Logical Design**

Users views were compiled and used to create the relations (files) necessary to maintain the information requested. The data elements identified were assembled from the user interviews and the DD1342 document. The user views match the data stores depicted in the Data Flow Diagram. The user views are listed as follows:

1. Components (aliases: Property, Inventory)
2. Owners (alias: Custodians)
3. Parts
4. History (alias: Deleted property)
5. Homes

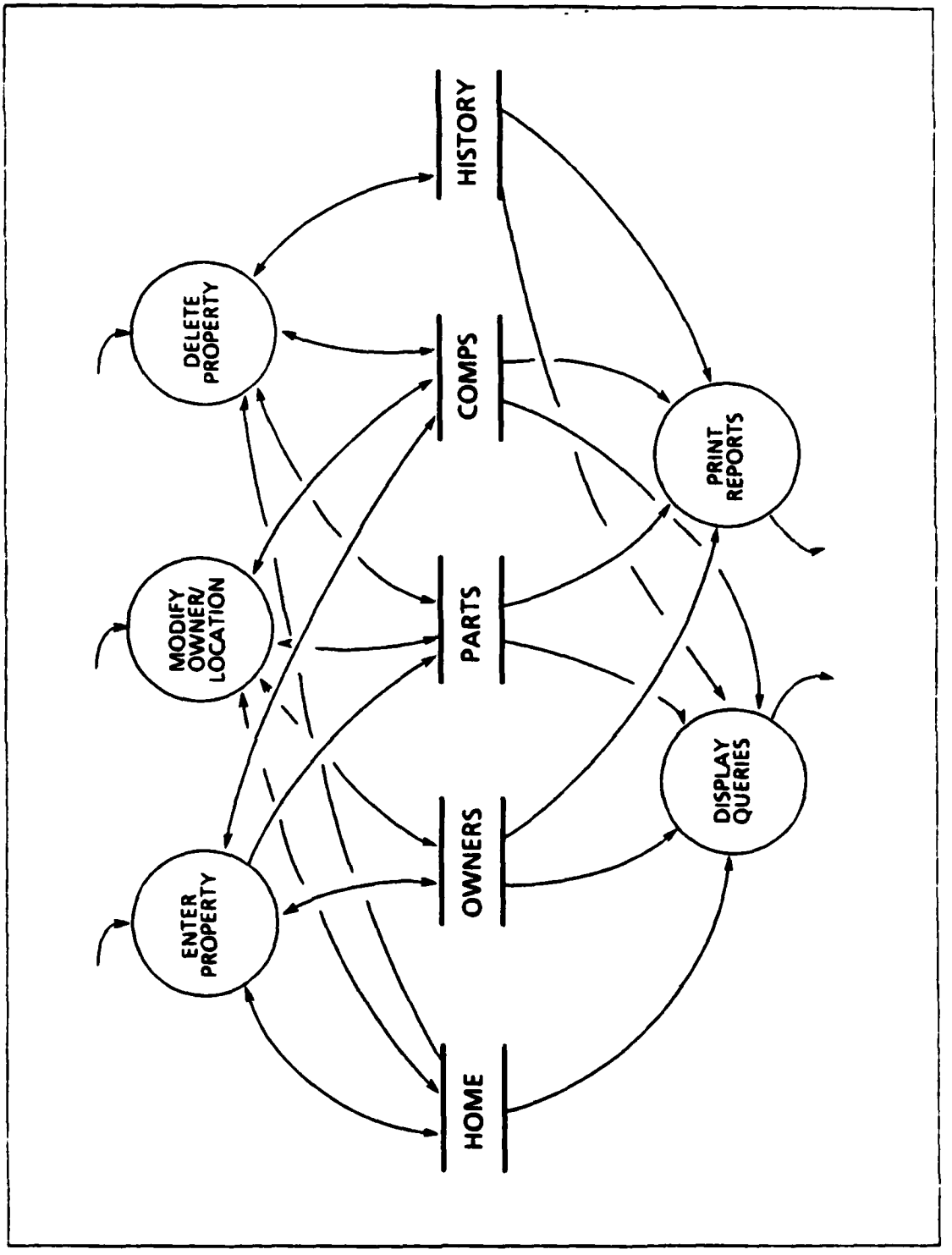


Figure 2.1 Data Flow Diagram.

a. User View No: 1

- User View Name: Components (aliases: Property, Inventory)
- Description: Information describing a piece of equipment belonging to the Admin Science Department inventory.
- Data Elements:
  - Manufacturer
  - Model
  - Description
  - Mfg_serial #
  - Requisition #
  - Property type (plant, minor, other)
  - Custodian
  - Location code (storage, lab, office, home)
  - Date of issue

b. User View No: 2

- User View Name: Owner (alias: Custodian)
- Description: Information gathered about a custodian of a piece of equipment when such equipment is entered into inventory or reassigned.
- Two owner classes:
  1. AS Department - storage items or lab items
  2. Personnel - home or office items
- AS Department Data Elements:
  - AS Department
  - Location
- Personnel Data Elements:
  - Last Name
  - First Name
  - Office
  - Street *
  - City *
  - Home Phone *

  * Removed to homes (see User View #5)
- Revised Personnel Data Elements:
  - Last Name
  - First Name

- Location (either Bldg_room or Home)

c. User View No: 3

- User View Name: Parts
- Description: Information describing a trackable part for a particular component.
- Data Elements:
  - Model
  - Description
  - Mfg Serial #
  - Property type
  - Property #
  - Price
  - Requisition #
  - Component Serial # (if blank, assumed storage and not a part of a component)

d. User View No: 4

- User View Name: History (alias: Deleted property)
- Description: Information used to track minor and plant property (parts or components) when deleted.
- Data Elements:
  - Mfg
  - Model
  - Serial #
  - Property type
  - Property #
  - Deletion date

e. User View No: 5

- User View Name: Homes
- Description: Information tracked for custodians that use components at home.
- Data Elements:
  - Last name
  - First name
  - Street
  - City
  - Phone

Relationships were identified and depicted in the Data Structure Diagram, see Figure 2.2. Components can have more than one part, and an owner may have more than one component. These are one-to-many relationships. A one-to-one relationship exists between an owner and home, since a custodian will have only one home address. Notice to get the home address location of a component will require linking these relations through an owner. The history relation shows no dependent relationships.

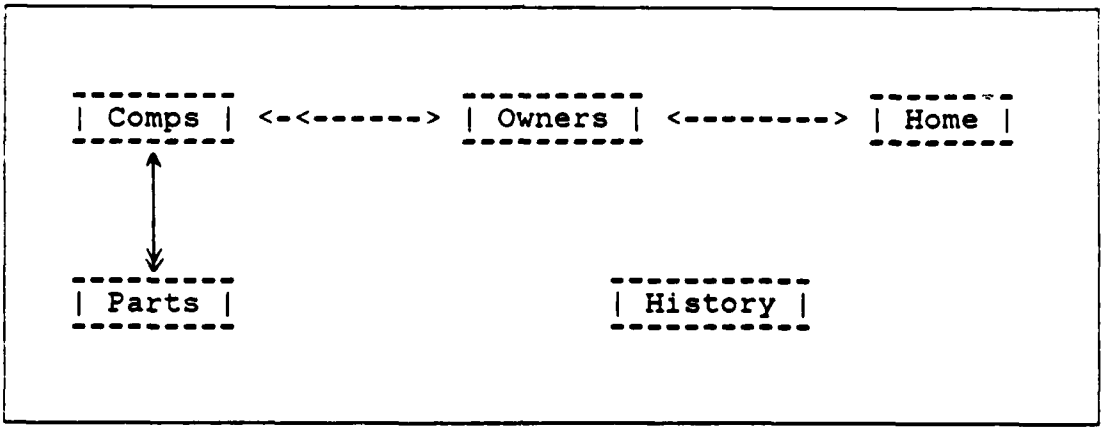


Figure 2.2 Data Structure Diagram.

3. **Physical Design**

The next phase in the design process was to translate the users views into the structures necessary to implement them in dBase III plus.

The data definition language provided with dBase III plus places restrictions on the name sizes of fields and files. Files are limited to 8 character names and use a .DBF extension. Each field must have a name of 10 characters or less. Also each field requires declaring a type and a length. Appendix A contains a listing of the files and data elements for the PMS.

A hierarchy diagram shown in Figure 2.3 outlines the modules necessary to implement the transactions identified during requirements analysis. Since it is intended for the program to be menu driven, the child nodes of the hierarchy diagram will be options presented to the user called from the parent nodes. Program descriptions are contained in Appendix A.

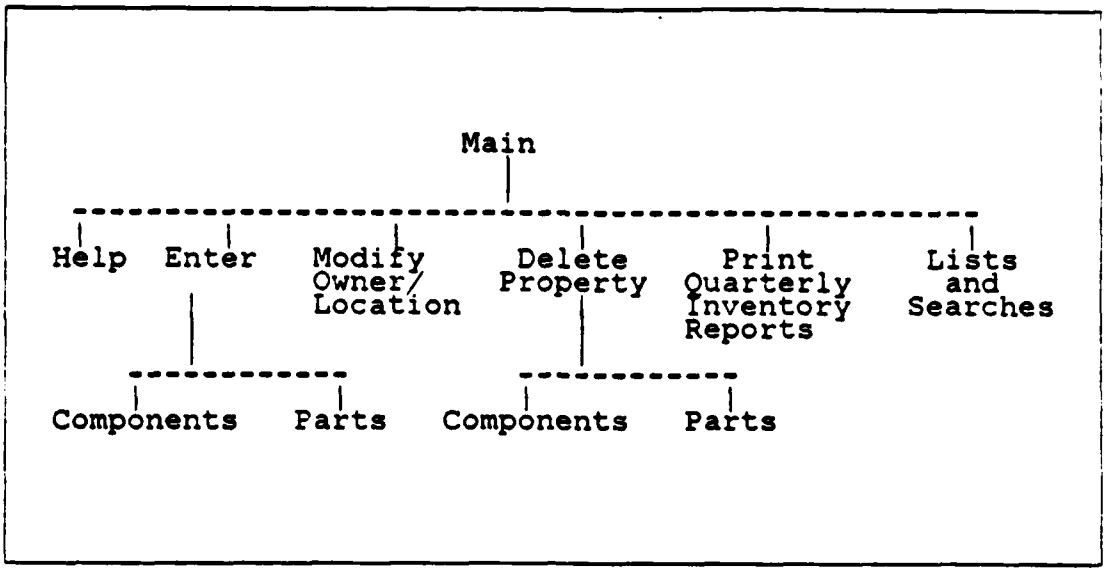


Figure 2.3 Hierarchy Diagram.

4. **Implementation**

Implementation required first writing code for each of the modules. Appendix B is a listing of all programs. Test data were generated and each module was tested thoroughly to ensure that no failure would occur. Due to the requirement that a user not need have a knowledge of dBase III plus this was deemed critical. Programs were written so that a user is walked through each step, with the program in control.

Testing also involved checking for data inconsistencies. As modules were written they were tested alone and in combination with calling modules. The testing proved very tedious but very rewarding. When a near final version was prepared for screening by the DEPT supervisor no system errors were discovered. This helped instill a sense of confidence with the system. A few inconspicuous errors were discovered and required correction.

The screening was an opportunity for feedback about the output presentations and formats. No major modifications were noted and once the system was finalized it was tested with the real data. The system proved reliable and accepted as satisfactory by the dept supervisor.

Estimates were made on the maximum file sizes and a storage requirements analysis is outlined in Table 1. This showed that the entire database can reside on a

single floppy disk which will allow an easy method of backing up the database files. Copy commands are included in an Autoexec.bat file contained on the system boot up disk. When the system is exited copies are done without a user having to remember to do so.

TABLE 1
DATA VOLUME STORAGE REQUIREMENTS

FILE	NUMBER	BYTES REQ	TOTAL
COMPONENTS	1000	149	149,000
PARTS	200	108	21.600
OWNERS	75	39	2,925
HOMES	30	81	2,430
HISTORY	100	50	5,000

Finally a user's manual was prepared and delivered along with a backup copy of the system. With empty database files the system will fit on a single floppy disk. If a problem with the hard disk did occur it would be necessary to copy the systems disk and the latest copy of the database files. The user's manual is reproduced in Appendix C.

III. CONCLUSIONS

The Property Management System is presently being utilized and is providing a useful means of maintaining accountability for the AS DEPT property accomplishing the first objective of this thesis. The printed reports, and screen presentations of information output were furnished for this purpose.

The objective of the maintenance stage of the life cycle is to keep the system functioning. As a new application program, errors may surface requiring correction. Additionally it was observed that there was some degree of user uncertainty whether or not all outputs will be useful, or if additional outputs might be helpful. These are only a few of the likely future maintenance problems. For the continued success of this system it will have to be maintained.

None of the users are dBase III plus programmers. It would be beneficial for a member of the AS DEPT office to learn the language. Capable faculty and students are available and should be recruited to handle maintenance functions in the interim. With the documentation contained in Appendixes of this thesis it will be possible for an individual with a reasonable level of dBase III plus to either modify existing programs or create new ones to service new user requirements.

The data manipulation language provided with dBase III plus allows accessing and manipulating the database without having to write programs to do so. There is no method of taking advantage of this feature from the PMS application. However the database files can be accessed and called directly into dBase III plus for use. For a dBase III plus programmer this would be the easiest way to handle single output requests.

Property management was only one of the functions addressed during the previous prototype development, the others were Personnel and Financial. The PMS application could easily be adapted to include a personnel database. This was not deemed necessary during development and not included. The department is very satisfied with the manual procedures established.

The AS DEPT has expressed a desire to automate its financial system. This should be the next development project to be undertaken. The PMS application would

work very well as a stand alone system without the need to integrate it with a financial system for the following reasons:

1. Property is a very small subset of the financial expenditures within the AS DEPT.
2. Very little data would be duplicated.
3. A spreadsheet application such as Lotus may serve better utility for a financial system.

Database development was outlined in the main body of the thesis in accordance with the second objective. The Systems Analysis and Design methodology proved very useful during the Property Management System development. The success of the PMS development using this technique can be attributed to three reasons:

1. A thorough understanding of the user requirements.
2. Attention to database structure prior to system design.
3. The communication and documentation provided with the analysis and design tools.

In conclusion, a goal of any development effort is to deliver a satisfactory system on time and within budget. This goal was accomplished with the Property Management System.

APPENDIX A
DATA DICTIONARY

This Appendix provides necessary information for the maintenance of the Property Management System. The information is organized into four sections and presented in table format. The usefulness of the four sections are discussed as follows:

1. Data Files - This section lists database and index files. The usefulness of database files should be obvious, all data are stored in these files. Index files are data related files used for output format and fast retrieval of data for output.
2. Data Elements - This section is the data dictionary in dBase III plus format. The structure and source of each data element is provided. Due to the 10 character name limitation a description is also given to help decipher the purpose of each element.
3. Files Used By Programs - This section provides the database and index files used by each program module. This section will prove useful in determining the effects of any program modifications.
4. Calls - This section provides a description of each of the program modules and shows the relationship between modules. The programs called by each module and the calling program of a particular module are provided.

TABLE 2

DATA FILES

FILE NAME	*TYPE*	*DESCRIPTION*
COMPS.DBF	DATA	ATTRIBUTES ABOUT A COMPONENT PROPERTY ITEM
PARTS.DBF	DATA	ATTRIBUTES ABOUT A PART PROPERTY ITEM
OWNERS.DBF	DATA	NAME AND LOCATION OF A PROPERTY CUSTODIAN
HOMES.DBF	DATA	HOME ADDRESS OF A CUSTODIAN WITH HOME PROPERTY
HISTORY.DBF	DATA	AN ARCHIVE FOR DELETED PLANT OR MINOR PROPERTY
NAMES.NDX	INDEX	ON LAST_NAME + FIRST_NAME + LOCATION
COMP_SER.NDX	INDEX	ON COMP_SER
NAME_LOC.NDX	INDEX	ON LAST_NAME + FIRST_NAME + LOCATION
C_SER.NDX	INDEX	ON COMP_SER
L_FNAMES.NDX	INDEX	ON LAST_NAME + FIRST_NAME
TEMP.DBF	DATA	JOINS COMPS WITH OWNERS
TEMP2.DBF	DATA	JOINS COMPS WITH HOME
TEMP3.DBF	DATA	JOINS COMPS WITH PARTS
TEMP3.NDX	INDEX	ON LAST_NAME + FIRST_NAME +LOCATION + C_MFG + C_MODEL
TYPE_NUM.NDX	INDEX	ON P_TYPE + P_NUM
TEMP.NDX	INDEX	ON C_PTYPE + C_PNUM (FOR SUM.RPT) ON LAST_NAME + FIRST_NAME (FOR QTR.RPT)

TABLE 3

DATA ELEMENTS

ELEMENT	*TYPE*	*WIDTH*	*SOURCE*	*DESCRIPTION*
CITY	CHAR	15	HOMES.DBF	A HOME CUSTODIAN'S HOME ADDRESS
COMP_SER	CHAR	15	COMPS.DBF	MANUFACTURER'S SERIAL # (KEY)
COMP_SER	CHAR	15	PARTS.DBF	COMPONENT MFG SERIAL # A PART IS ASSIGNED
C_DESC	CHAR	50	COMPS.DBF	DESCRIPTION OF A COMPONENT
C_MFG	CHAR	15	COMPS.DBF	COMPONENT MFG
C_MODEL	CHAR	15	COMPS.DBF	COMPONENT MODEL
C_PNUM	CHAR	10	COMPS.DBF	COMPONENT PROPERTY NUMBER (MINOR AND PLANT TYPES)
C_PRICE	NUM	10	COMPS.DBF	COMPONENT PRICE, USES A TEMPLATE (99,999.99)
C_TYPE	CHAR	1	COMPS.DBF	COMPONENT PROPERTY TYPE (PLANT,MINOR, OTHER)
C_REQN	CHAR	15	COMPS.DBF	DEPT REQUISITION #, USES A TEMPLATE 9999-NNNN/NNNNN
DEL_DATE	DATE	8	HISTORY.DBF	DATE A COMPONENT OR PART IS PLACED INTO HISTORY
FIRST_NAME	CHAR	15	COMPS.DBF	CUSTODIAN'S FIRST NAME (AS DEPT GETS ROOM #)

TABLE 3

DATA ELEMENTS (CONT'D.)

ELEMENT	*TYPE*	*WIDTH*	*SOURCE*	*DESCRIPTION*
FIRST_NAME	CHAR	15	OWNERS.DBF	CUSTODIAN'S FIRST NAME (COMPOSITE KEY)
FIRST_NAME	CHAR	15	HOMES.DBF	HOME CUSTODIAN'S FIRST NAME (COMPOSITE KEY)
ISSUE_DATE	DATE	8	COMPS.DBF	DATE A COMPONENT ASSIGNED TO A CUSTODIAN
LAST_NAME	CHAR	15	COMPS.DBF	CUSTODIAN'S LAST NAME (AS DEPT GETS AS DEPT)
LAST_NAME	CHAR	15	OWNERS.DBF	CUSTODIAN'S LAST NAME (COMPOSITE KEY)
LAST_NAME	CHAR	15	COMPS.DBF	HOME CUSTODIAN'S LAST NAME (COMPOSITE KEY)
LOCATION	CHAR	8	OWNERS.DBF	BLDG-ROOM # OF A COMPONENT CUSTODIAN
LOC_CODE	CHAR	1	COMPS.DBF	LOCATION CODE (HOME,OFFICE,LAB, STORAGE)
MFG	CHAR	15	HISTORY.DBF	MFG OF DELETED COMPONENT
MODEL	CHAR	15	HISTORY.DBF	COMPONENT OR PART MODEL OF DELETED PROPERTY
PART_SER	CHAR	15	PARTS.DBF	MANUFACTURER'S SERIAL #
PHONE	CHAR	13	HOMES.DBF	A HOME CUSTODIAN'S HOME PHONE # USES A TEMPLATE (999)999-9999

TABLE 3

DATA ELEMENTS (CONT'D.)

ELEMENT	*TYPE*	*WIDTH*	*SOURCE*	*DESCRIPTION*
PNUM	CHAR	10	HISTORY.DBF	PROPERTY # OF A DELETED PART OR COMPONENT
PTYPE	CHAR	1	HISTORY.DBF	PROPERTY TYPE OF A DELETED PART OR COMPONENT
P_DESC	CHAR	50	PARTS.DBF	A DESCRIPTION OF A PARTICULAR PART
P_MODEL	CHAR	15	PARTS.DBF	PART MODEL
P_NUM	CHAR	10	PARTS.DBF	PART PROPERTY # (MINOR AND PLANT TYPES)
P_PRICE	NUM	8	PARTS.DBF	PRICE OF A PARTICULAR PART, USES A TEMPLATE 9,999.99
P_TYPE	CHAR	1	PARTS.DBF	PART PROPERTY TYPE (PLANT,MINOR,OTHER)
P_REQN	CHAR	15	PARTS.DBF	DEPT REQUISITION # USES A TEMPLATE 9999-NNNN/NNNNN
SERIAL_NUM	CHAR	15	HISTORY.DBF	MFG SERIAL # OF A DELETED PART OR COMPONENT
STREET	CHAR	25	HOMES.DBF	A HOME CUSTODIAN'S ADDRESS

TABLE 4

FILES USED BY PROGRAMS

PROGRAM	*DATABASE FILES*	*INDEXES*
ADDCOMP.PRG	HOMES.DBF OWNERS.DBF COMPS.DBF	L_FNAMES.NDX NAMES.NDX NAME_LOC.NDX
ADD_HELP.PRG	NONE	NONE
ADDMENU.PRG	NONE	NONE
ADDPART.PRG	PARTS.DBF COMPS.DBF	C_SER.NDX COMP_SER.NDX, NAME_LOC.NDX
ADHOC.PRG	NONE	NONE
DELCOMP.PRG	HISTORY.DBF PARTS.DBF HOMES.DBF OWNERS.DBF COMPS.DBF	NONE C_SER.NDX L_FNAMES.NDX NAMES.NDX COMP_SER.NDX, NAME_LOC.NDX
DEL_HELP.PRG	NONE	NONE
DELMENU.PRG	NONE	NONE
DELPART.PRG	HISTORY.DBF PARTS.DBF COMPS.DBF	NONE C_SER.NDX COMP_SER.NDX, NAME_LOC.NDX
MAIN_HELP.PRG	NONE	NONE
MODCOMP.PRG	PARTS.DBF HOMES.DBF COMPS.DBF	C_SER.NDX L_FNAMES.NDX COMP_SER.NDX, NAME_LOC.NDX
MOD_HELP.PRG	NONE	NONE

TABLE 4

FILES USED BY PROGRAMS (CONT'D.)

PROGRAM	*DATABASE FILES*	*INDEXES*
MODLOC.PRG	OWNERS.DBF COMPS.DBF	NAMES.NDX COMP_SER.NDX, NAME_LOC.NDX
MODMENU.PRG	NONE	NONE
MODPART.PRG	PARTS.DBF HOMES.DBF OWNERS.DBF COMPS.DBF	C_SER.NDX L_FNAMES.NDX NAMES.NDX COMP_SER.NDX, NAME_LOC.NDX
OWNERS.PRG	HOMES.DBF OWNERS.DBF	L_FNAMES.NDX NAMES.NDX
PMANF.PRG	COMPS.DBF	NONE
PMOD.PRG	COMPS.DBF	NONE
PROPERTY.PRG	NONE	NONE
QRY_HELP.PRG	NONE	NONE
QTR_RPT.PRG	PARTS.DBF OWNERS.DBF COMPS.DBF	C_SER.NDX NAMES.NDX COMP_SER.NDX, NAME_LOC.NDX
REPORTS.PRG	NONE	NONE
RPT_HELP.PRG	NONE	NONE
SLOCATIO.PRG	COMPS.DBF	NAME_LOC.NDX
SOWNER.PRG	COMPS.DBF OWNERS.DBF	NAME_LOC.NDX NAMES.NDX
SUM_RPT.PRG	PARTS.DBF COMPS.DBF	C_SER.NDX COMP_SER.NDX, NAME_LOC.NDX

TABLE 5

CALLS

PROGRAM	*CALLS*	*CALLED BY*
ADDCOMP.PRG	ENTERS COMPONENTS INTO COMPS.DBF AND ASSIGNS CUSTODIANS PLACING THEM INTO OWNERS OR HOMES IF NOT ON FILE	
	NONE	ADDMENU.PRG
ADD_HELP.PRG	DESCRIBES IN GENERAL THE PROCEDURES TO ENTER A PART OR COMPONENT	
	NONE	ADDMENU.PRG
ADDMENU.PRG	MENU DISPLAY OF THE CHOICE TO ENTER A PART OR COMPONENT	
	ADDCOMP.PRG	PROPERTY.PRG
ADDPART.PRG	ENTER PARTS AND PLACES THEM INTO PARTS, ASSIGNING THEM TO STORAGE OR A COMPONENT	
	NONE	ADDMENU.PRG
ADHOC.PRG	DISPLAYS THE MENU FOR LISTS AND SEARCHES	
	OWNERS.PRG SOWNER.PRG SLOCATIO.PRG ORY_HELP.PRG PMANF.PRG PMOD.PRG	PROPERTY.PRG
DELCOMP.PRG	DELETES COMPONENTS AND PLACES PLANT AND MINOR PROPERTY INTO HISTORY	
	NONE	DELMENU.PRG
DEL_HELP.PRG	DESCRIBES IN GENERAL THE PROCEDURES TO DELETE A PIECE OF PROPERTY	
	NONE	DELMENU.PRG
DELMENU.PRG	DISPLAY THE CHOICE TO DELETE A PART OR COMPONENT	
	DELCOMP.PRG DELPART.PRG DELHELP.PRG	PROPERTY.PRG
DELPART.PRG	DELETES PARTS, PLACES PLANT AND MINOR PROPERTY INTO HISTORY	
	NONE	DELMENU.PRG

TABLE 5

CALLS (CONT'D.)

PROGRAM	*CALLS*	*CALLED BY*
MAIN_HLP.PRG	DESCRIBES THE PROPERTY SYSTEM AND EXPLAINS IN GENERAL THE TASKS AVAILABLE	
	NONE	PROPERTY.PRG
MODCOMP.PRG	ALLOWS THE MODIFICATION OF A COMPONENT RECORD (EXCEPT FIELDS TO ASSIGN OWNERSHIP), IF THE SERIAL # IS CHANGED IT IS REFLECTED IN PARTS	
	NONE	MODMENU.PRG
MOD_HELP.PRG	DESCRIBES IN GENERAL THE PROCEDURES USED TO CHANGE A PROPERTY RECORD	
	NONE	MODMENU.PRG
MODLOC.PRG	ALLOWS REASSIGNING A COMPONENT TO A NEW CUSTODIAN, IF NOT ON FILE CUSTODIAN ADDED TO OWNERS OR HOME	
	NONE	MODMENU.PRG
MODMENU.PRG	DISPLAYS THE CHOICES TO MODIFY A COMPONENT OR PART RECORD, ALSO ALLOWS REASSIGNING THEM A NEW CUSTODIAN	
	MODCOMP.PRG MODLOC.PRG MODPART.PRG MODHELP.PRG	PROPERTY.PRG
MODPART.PRG	ALLOWS MODIFICATION OF A PART RECORD, IF REASSIGNED TO A DIFFERENT COMPONENT CHECKS TO SEE IF COMPONENT IS ON FILE	
	NONE	MODMENU.PRG
OWNERS.PRG	LISTS CUSTODIANS ON FILE (NAME AND LOCATION)	
	NONE	ADHOC.PRG
PMANF.PRG	DISPLAYS THE COMPONENTS OF A DESIRED MFG	
	NONE	ADHOC.PRG
PMOD.PRG	FINDS ALL COMPONENTS OF A DESIRED MFG'S MODEL	
	NONE	ADHOC.PRG

TABLE 5

CALLS (CONT'D.)

PROGRAM	*CALLS*	*CALLED BY*
PROPERTY.PRG	MAIN MENU TO DISPLAY THE VARIOUS TASKS THAT ARE AVAILABLE FOR THE USER, CHECKS PASSWORD/ACCESS	
	DOS	DBASE III
QRY_HELP.PRG	DESCRIBES IN GENERAL THE LIST AND SEARCH CAPABILITIES	
	NONE	ADHOC.PRG
QTR_RPT.PRG	PRINTS 3 REPORTS: 1. COMPONENTS GROUPED CUSTODIAN/LOCATION 2. PARTS GROUPED BY CUSTODIAN/COMPONENT 3. STOCK PARTS NOT ASSIGNED	
	TEMP.FRM TEMP3.FRM STOKPART.FRM	NONE
REPORTS.PRG	MENU.TO DISPLAY THE CHOICES TO PRINT A QUARTERLY OR SUMMARY REPORT	
	QTR_RPT.PRG SUM_RPT.PRG RPT_HELP.PRG	PROPERTY.PRG
RPT_HELP.PRG	DESCRIBES IN GENERAL THE PROCEDURES TO PRINT THE PROPERTY REPORTS	
	NONE	REPORTS.PRG
SLOCATIO.PRG	DISPLAYS COMPONENTS GROUPED BY THE LOCATION CODE	
	NONE	ADHOC.PRG
SOWNER.PRG	DISPLAYS COMPONENTS OF A PARTICULAR CUSTODIAN	
	NONE	ADHOC.PRG
SUM_RPT.PRG	PRINTS 3 REPORTS: 1. COMPONENTS GROUPED BY PROPERTY TYPE & NUMBER 2. ASSIGNED PARTS GROUPED 3. STOCK PARTS SAME GROUPING	
	TEMP1.FRM PARTSTOK.FRM PARTSUM.FRM	NONE

APPENDIX B
PROGRAM LISTINGS

1. ADDCOMP.PRG

```
********************        Program:  ADDCOMP.PRG     *****************
*Author.............:  TIM SEXTON
*Purpose............:  enter components into COMPS and assign
                          custodians placing them into OWNERS or HOMES
                          if not presently on file
*Calls..............:  None
*Reserved...........:  None
*Input/Output Files.:  COMPS.DBF, OWNERS.DBF, HOMES.DBF


clear
set confirm on
set exact off
select c
use homes index l_fnames
select b
use owners index names
select a
use comps index name_loc,comp_ser
do while .t.
    blank = space(15)
    mmfg = blank
    mmod = blank
    mdesc = space (50)
    mser = blank
    mptype = " "
    mpnum = space(10)
    mprice = 0.00
    mreqn = blank
    mloc_code = " "
    mtoday = date( )
    mlname = blank
    mfname = blank
    mstreet = space(25)
    mcity = blank
    mlocation = space(8)
    mphone = space(13)
    entering = .t.
    finished = .f.
    addowner =.f.
    addhome = .f.
    @ 0,16 say " C O M P O N E N T   E N T R Y   S C R E E N"
    @ 1,0 to 1,79 double
    @ 2,0 say "Enter Component Information:"
    @ 21,0 to 21,79
    do while .not. finished          && entering a component
       do while entering             && componenet information
          @  2,56 say "date: "
          @  2,61 say mtoday
          @  3,12 say "mfg: "
```

```
          @  4,10 say "model: "
          @  5,7  say "serial #: "
          @  6,4  say "description: "
          @ 22,25 say "To EXIT leave mfg blank"
* entries begin at column 18
          c = 18
* enter mfg or exit
          @ 3,c get mmfg PICTURE "@N!"
          read
          if mmfg = blank
              set confirm off
              close databases
              release all
              return
          else
              @ 22,0 clear to 23,79
          endif
* enter model
          @ 4,c get mmod PICTURE "@N!"
          read
* enter mfg serial# (mandatory)
          no_ser = .t.
          do while  no_ser
              @ 5,c get mser PICTURE "@N!"
              read
              if mser = blank
                  @ 22,24 say "serial # may not be blank"
                  delay = 0
                  do while delay < 25
                      delay = delay + 1
                  enddo
                  @ 22,0 clear to 22,79
              else
                  no_ser =.f.
              endif
          enddo
* enter description
          @ 6,c get mdesc PICTURE "@N!"
          read
* enter location code
          set confirm off
          @  8,1  say "designated use: "
          @  8,20 say "(Office / Lab / Storage / Home)"
          @ 8,c get mloc_code PICTURE "@!A"
          read
          do while .not. mloc_code $"OoLlSsHh"
              mloc_code = " "
              @ 8,c get mloc_code PICTURE "@!A"
              read
          enddo
          set confirm on
* enter custodian information, search to see if on file
* use owners for loc_codes O,S,L
* use homes for loc_code H
* last name, first name, and office or home addresses are mandatory
          do case
* office use
              case mloc_code = "O"
                  no_lname = .t.
                  do while no_lname
                      @  9,0 clear to 15,79
                      @  9,6  say "Custodian"
                      @ 10,6  say "last name: "
                      @ 10,c  get mlname PICTURE  "@!A"
```

```
                    read
                    if mlname = blank
                        @ 22,24 say "Custodian's name may not be blank"
                        delay = 0
                        do while delay < 25
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        no_lname = .f.
                    endif
                enddo  no lname
* check to see if on file
                select owners
                goto top
                searched = .f.
                checked = .f.
                located = .f.
                addowner = .f.
                do while .not. searched
                    if eof()
                        searched = .t.
                    else
                        seek trim(mlname)
                    endif
                    if .not. found()
                        searched = .t.
                        addowner = .t.
                    endif
                    if found() .and. location = "HOME"
                        searched = .t.
                        located = .t.
                        checked = .t.
                    endif
                    if found() .and. location <> "HOME"
                        searched = .t.
                        located = .t.
                        checked = .f.
                    endif
                enddo
                do while located
                    do while .not. checked
                        @ 11,5  say "first name: "
                        @ 11,c  say first_name
                        @ 12,9  say "office: "
                        @ 12,c  say location
                        set confirm off
                        ans = " "
                        do while .not. ans  $"yYnN"
                            ans = " "
                            @ 22,25 say;
                                "Is this the correct custodian?: :"
                            @ 23,34 say    "[ Yes / No ]"
                            @ 22,56 get ans picture "@!A"
                            read
                        enddo
                        @ 22,0 clear to 23,79
                        set confirm on
                        if upper(ans) = "Y"
                            located = .f.
                            checked = .t.
                            mfname = first_name
                            mlocation = location
                        else
                            checked = .t.
                            @ 11,c clear to 12,79
```

```
                endif
            enddo checked
            do while located .and. checked .and. .not. eof()
                skip
                if eof()
                    located = .f.
                    addowner = .t.
                endif
                if last_name = mlname
                    checked = .f.
                else
                    located = .f.
                    addowner = .t.
                endif
                if location = "HOME"
                    located = .t.
                    checked = .t.
                endif
            enddo located and checked
        enddo   located
        if addowner
            no_fname = .t.
            do while no_fname
                @ 11,5   say "first name: "
                @ 11,c   get  mfname  picture "@!A"
                read
                if mfname = blank
                    @ 22,20 say  "A first name or first"+;
                                          " initial is required"
                    delay = 0
                    do while delay < 25
                        delay = delay + 1
                    enddo
                    @ 22,0 clear to 22,79
                else
                    no_fname = .f.
                endif
            enddo   no fname
            @ 12,9   say "office: "
            @ 12,27  say "(bldg-room)"
            no_office =  .t.
            do while no_office
                @ 12,c  get  mlocation PICTURE "@! (A-999)"
                read
                if mlocation = space(8)
                    @ 22,28 say "Office may not be blank"
                    delay = 0
                    do while delay < 25
                        delay = delay + 1
                    enddo
                    @ 22,0 clear to 22,79
                else
                    no_office = .f.
                endif
            enddo   no office
        endif add owner
* supply use
    case mloc_code = "S"
        @  9,0 clear to 15,79
        @ 11,8 say "custodian: AS DEPT"
        @ 12,9  say "location: (I-200)"
        mlname = "AS DEPT        "
        mfname = "(I-200) "
        mlocation = "STORAGE "
```

```
* check to see if on file
                    select owners
                    goto top
                    addowner = .f.
                    if eof()
                        addowner = .t.
                    else
                        locate for last_name = trim(mlname) .and.;
                         first_name = trim(mfname) .and.;
                          location = trim(mlocation)
                    endif
                    if .not. found()
                        addowner = .t.
                    endif

* lab use
                case mloc_code = "L"
                    @  9,0 clear to 15,79
                    @ 10,5  say " A - (I-158) Front          C - (I-224)"
                    @ 11,5  say " B - (I-158) Back           D - (I-250)"
                    @ 13,3 say "Enter one of the above lab locations : :"
                    set confirm off
                    lab = " "
                    do while .not. lab $ "AaBbCcDd"
                        lab = " "
                        @ 13,41 get lab picture "@!A"
                        read
                    enddo
                    set confirm on
                    mlname = "AS DEPT         "
                    mlocation = "LAB      "
                    do case
                        case upper(lab) = "A"
                            mfname = "(I-158)F"
                        case upper(lab) = "B"
                            mfname = "(I-158)B"
                        case upper(lab) = "C"
                            mfname = "(I-224)"
                        case upper(lab) = "D"
                            mfname = "(I-250)"
                    endcase
* check to see if on file
                    select owners
                    goto top
                    addowner = .f.
                    if eof()
                        addowner = .t.
                    else
                        locate for last_name = trim(mlname) .and.;
                           first_name = trim(mfname) .and.;
                            location = trim(mlocation)
                    endif
                    if .not. found()
                        addowner = .t.
                    endif
* home use
                case mloc_code = "H"
                    mlocation = "HOME     "
                    no_lname = .t.
                    do while no_lname
                        @  9,0 clear to 15,79
                        @  9,6  say "Custodian"
```

```
                    @ 10,6  say "last name: "
                    @ 10,c  get mlname PICTURE  "@!A"
                    read
                    if mlname = space(15)
                        @ 22,24 say "Custodian's name may not be blank"
                        delay = 0
                        do while delay < 25
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        no_lname = .f.
                    endif
                enddo no last name
* check to see if on file
                select homes
                goto top
                searched = .f.
                located = .f.
                checked = .f.
                addowner = .f.
                addhome = .f.
                do while .not. searched
                    if eof()
                        searched = .t.
                    else
                        seek trim(mlname)
                    endif
                    if .not.found()
                        searched = .t.
                        addowner = .t.
                        addhome =.t.
                    endif
                    if found()
                        searched = .t.
                        located = .t.
                        checked = .f.
                        mfname = first_name
                        mstreet = street
                        mcity = city
                    endif
                enddo not searched
                do while located
                    do while .not. checked
                        @ 11,5  say "first name: "
                        @ 11,c  say first_name
                        @ 12,9  say "street: "
                        @ 12,c  say street
                        @ 13,11 say "city: "
                        @ 13,c  say city
                        @ 14,10 say "phone: "
                        @ 14,c  say phone
                        set confirm off
                        ans = " "
                        do while .not. ans  $"yYnN"
                            ans = " "
                            @ 22,25 say;
                              "Is this the correct custodian?: :"
                            @ 23,34 say "[ Yes / No ]"
                            @ 22,56 get ans picture "@!A"
                            read
                        enddo
                        set confirm on
                        @ 22,0 clear to 23,79
                        if upper(ans) = "Y"
                            located = .f.
```

```
                        checked = .t.
                    else
                        checked = .t.
                        @ 11,c clear to 14,79
                    endif
                enddo checked
                do while located .and. checked .and. .not. eof()
                    skip
                    if eof()
                        located = .f.
                        addowner = .t.
                        addhome = .t.
                    endif
                    if last_name = mlname
                        checked = .f.
                    else
                        located = .f.
                        addowner = .t.
                        addhome = .t.
                    endif
                enddo located and checked
            enddo   located
            if addowner
                no_fname = .t.
                do while no_fname
                    @ 11,5   say "first name: "
                    @ 11,c   get  mfname  picture "@!A"
                    read
                    if mfname = blank
                        @ 22,20 say "A first name or first"+;
                                                " initial is required"
                        delay = 0
                        do while delay < 25
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        no_fname = .f.
                    endif
                enddo no fname
                no_address = .t.
                do while no_address
                    @ 12,9   say "street: "
                    @ 12,c   get mstreet PICTURE "@!"
                    @ 13,11  say "city: "
                    @ 13,c   get mcity PICTURE "@!A"
                    @ 14,10  say "phone: "
                    @ 14,c   get mphone PICTURE "(999)999-9999"
                    read
                    if mstreet = space(25) .or. mcity = blank
                        @ 22,25 say "Street or City may not be blank"
                        delay = 0
                        do while delay < 25
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        no_address = .f.
                    endif
                enddo no address
            endif addowner
        endcase location code
* enter property type (mandatory)
        set confirm off
        @ 16,2  say "property type: "
```

```
            @ 16,20 say "(Plant / Minor / Other)"
            @ 16,c get mptype PICTURE "@!A"
            read
            do while .not. mptype $ "mMoOpP"
                mptype = " "
                @ 16,c get mptype PICTURE "@!A"
                read
            enddo
            set confirm on
* no property# for other type property
            if upper(mptype) = "O"          &&  ensure it is blank
                mpnum = space(10)
            endif
* enter property# (mandatory for plant and minor property types)
            if upper(mptype) = "M" .or. upper(mptype) = "P"
                @ 17,5 say "property #: "
                no_num = .t.
                do while no_num
                    @ 17,c get mpnum PICTURE "@N!"
                    read
                    if mpnum = space(10)
                        @ 22,15 say "Minor and Plant property"+;
                                                " require a property number"
                        delay = 0
                        do while delay < 25
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        no_num = .f.
                    endif
                enddo
            endif
* enter price and requisition#
            @  19,10 say "price: $"
            @  20,9  say "reqn #: "
            @  19,c get mprice PICTURE "@R 99,999.99"
            @  20,c get mreqn PICTURE "@!R 9999-NNNN/NNNNN"
            read
* allow editing or abandon current entry
            @ 22,0 clear to 23,79
            @ 22,23 say "Is the above information correct?: :"
            @ 23,28 say "[ Yes / No / Abandon ]"
            set confirm off
            ans = " "
            do while .not. ans $ "yYnNaA"
                ans = " "
                @ 22,57  get ans picture "@!A"
                read
            enddo
            @ 22,15 clear to 23,79
            set confirm on
* clear mvar that controls creating a new owner or home record
            if upper(ans) = "N"
                addowner = .f.
                addhome = .f.
                @ 9,0 clear to 20,79
            endif
* abandon entry -> clear mvar and close any open dbf
            if upper(ans) = "A"
                set confirm off
                close databases
                release all
                return
             endif
```

```
* place entry into dbf
          if upper(ans) = "Y"       && add mvar to dbf
             entering = .f.
          endif
       enddo entering
       @ 22,20 say   "Standby while your entry is placed on file"
* place in owners
* location = HOME for home use
* location = LAB for lab use
       if addowner
          select owners
          append blank
          replace last_name with trim(mlname)
          replace first_name with trim(mfname)
          replace location with trim(mlocation)
       endif
* place in homes
       if addhome
          select homes
          append blank
          replace last_name with trim(mlname)
          replace first_name with trim(mfname)
          replace street with trim(mstreet)
          replace city with trim(mcity)
          replace phone with mphone
       endif
* place in comps
       select comps
       append blank
       replace c_mfg with trim(mmfg)
       replace c_model with trim(mmod)
       replace c_desc with trim(mdesc)
       replace comp_ser with trim(mser)
       replace c_ptype with mptype
       replace c_pnum with trim(mpnum)
       replace c_price with mprice
       replace c_reqn with trim(mreqn)
       replace last_name with trim(mlname)
       replace first_name with trim(mfname)
       replace loc_code with mloc_code
       replace issue_date with mtoday
       @ 22,0 clear to 23,79
       @ 22,18 say "Do you have additional components to enter?: :"
       @ 23,28 say "[ Yes / No ]"
       set confirm off
       ans = " "
       do while .not. ans $ "yYnN"
          ans = " "
          @ 22,62 get ans
          read
       enddo
       if upper(ans) = "N"
          finished = .t.
          clear
       else                          && set up for the next one
          @ 22,0 clear to 23,79
          entering = .t.
          addowner = .f.
          addhome = .f.
          mmfg = blank
          mmod = blank
          mdesc = space (50)
          mser = blank
          mptype = " "
```

```
            mpnum = space(10)
            mprice = 0.00
            mreqn = blank
            mloc_code = " "
            @ 22,0 clear to 23,79
            @ 22,17 say;
              "Is the next component for the same custodian?: :"
            @ 23,31 say "[ Yes / No ]"
            ans = " "
            do while .not. ans $"yYnN"
                ans = " "
                @ 22,63  get ans
                read
            enddo
            set confirm on
            @ 22,0 clear to 23,79
            if upper(ans) = "N"
                mlname = blank
                mfname = blank
                mstreet = space(25)
                mcity = blank
                mlocation = space(8)
                mphone = space(13)
            endif
        endif  set up
        @ 3,0 clear to 20,79
    enddo finished
    set confirm off
    release all
    close databases
    return
enddo
* EOF addcomp.prg
```

2. ADDMENU.PRG

```
**********************     Program: ADDMENU.PRG     *******************
*Author.............:  TIM SEXTON
*Purpose............:  Menu displays the choices: enter components or
*                      parts
*Calls..............:  ADDCOMP.PRG, ADDPART.PRG
*
*Input/Output Files.:  NONE

*set up the screen environment
clear
set confirm off
* display the dialogue menu
do while .t.
    clear
    @  2,10 to 13,69 double
    @  3,30 say "Property Entry Menu"
    @  4,11 to 4,68 double
    @  6,27 say " 1 - COMPONENT entry"
    @  7,27 say " 2 - PART entry"
    @  9,27 say " H - HELP"
    @ 11,27 say " 0 - RETURN to main menu"
```

```
    @ 13,30 say " selection : : "
    choice = " "
    @ 13,42 get choice
    read
* place an asteriks next to a valid choice and erase all other
* rows
    if choice $ "hH012"
        do case
            case upper(choice) = "H"
                @ 9,26  say "*"
                choicerow = 9
            case choice = "0"
                @ 11,26  say "*"
                choicerow = 11
            otherwise
                @ 5+val(choice),26  say "*"
                choicerow = 5+val(choice)
        endcase
        firstrow = 6
        rows = 7
        rowcnt = 0
        do while rowcnt < rows
            if rowcnt+firstrow <> choicerow
                @ firstrow+rowcnt,27 say space(25)
            endif
            rowcnt = rowcnt + 1
        enddo
    endif
* do a valid choice or loop back thru this program
    do case
        case choice = "0"
            return
        case choice = "1"
            do addcomp
        case choice = "2"
            do addpart
        case upper(choice) = "H"
            do add_help
        otherwise
            @ 17,22 say "****** not a valid  selection ******"
            ?
            wait
            loop
    endcase
enddo
*EOF ADDMENU.PRG
```

3. ADDPART.PRG

```
**********          Program:  ADDPART.PRG          **********
*Author.............:  TIM SEXTON
*Purpose............:  enter parts and place into PARTS, assigning
*                      the part to storage or to a component on file
*Calls..............:  None
*Reserved...........:  None
*Input/Output Files.:  PARTS.DBF, COMPS.DBF



clear
set confirm on
set exact on
select b
```

```
use parts index c_ser
select a
use comps index comp_ser,name_loc
do while .t.
    blank = space(15)
    mmod = blank
    mdesc = space(50)
    mp_ser = blank
    mc_ser = blank
    mptype = " "
    mpnum = space(10)
    mprice = 0.00
    mreqn = blank
    entering = .t.
    still_more = .t.
    finished = .f.
    @ 0,21 say " P A R T   E N T R Y   S C R E E N"
    @ 1,0 to 1,79 double
    @ 3,0 say "Enter Part Information:"
    @ 21,0 to 21,79
    do while .not. finished          && entering  parts
        do while entering             && part information
            @  5,10 say "model: "
            @  6,7  say "serial #: "
            @  7,4  say "description: "
            @ 22,25 say "To EXIT leave model blank"
* entries begin at column 18
            c = 18
* enter model or exit
            @ 5,c get mmod PICTURE "@N!"
            read
            if mmod = blank
                set confirm off
                close databases
                release all
                return
            else
                @ 22,0 clear to 23,79
            endif
* enter mfg serial#
            @ 6,c get mp_ser PICTURE "@N!"
            read
* enter description
            @ 7,c get mdesc PICTURE "@N!"
            read
*determine if stock or component use
            set confirm off
            p_use = " "
            @  9,1  say "designated use: "
            @  9,20 say "(Storage / Component)"
            @  9,c get p_use PICTURE "@!A"
            read
            do while .not. p_use $"CcSs"
                p_use = " "
                @ 9,c get p_use PICTURE "@!A"
                read
            enddo
            set confirm on
* enter component serial# for use = C,  search to see if on file
* comp_ser = blank for storage use
* use comps for use = C component ser # mandatory
```

```
* storage use
          if p_use = "S"
              mc_ser = blank
          endif
* component use
          if p_use = "C"
              @ 10,0 clear to 13,79
              @ 11,6  say "Component"
              @ 12,6  say "serial #: "
              searched = .f.
              do while .not. searched
                  no_ser = .t.
                  do while no_ser
                      @ 12,c  get mc_ser PICTURE  "@!N"
                      read
                      if mc_ser = blank
                          @ 22,20 say;
                                "component's serial # may not be blank"
                          delay = 0
                          do while delay < 25
                              delay = delay + 1
                          enddo
                          @ 22,0 clear to 22,79
                      else
                          no_ser = .f.
                      endif
                  enddo  no component serial#
* check to see if on file
                  select comps
                  set order to 1
                  goto top
                  on_file = .f.
                  done = .f.
                  if eof()
                      on_file = .f.
                  else
                      seek trim(mc_ser)
                  endif
                  if found()
                      searched = .t.
                      on_file = .t.
                      done = .t.
                  endif
                  if .not. found() .or. .not. on_file
                      @ 22,22 say "Component not on file !!!"
                      delay = 0
                      do while delay < 25
                          delay = delay + 1
                      enddo
                      @ 22,0 clear to 22,79
                      set confirm off
                      ans = " "
                      do while .not. ans  $"yYnN"
                          ans = " "
                          @ 22,20 say "Is this the correct serial #?: :"
                          @ 23,26 say "[ Yes / No ]"
                          @ 22,50 get ans picture "@!A"
                          read
                      enddo
                      @ 22,0 clear to 23,79
                      set confirm on
                      if upper(ans) = "Y"
                          entering = .f.
                          searched = .t.
```

```
                        still_more = .f. .
                        done = .t.
                        @ 22,15 say;
                              "This component must be entered first"
                        delay = 0
                        do while delay < 25
                           delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        @ 22,15 say;
                              "Please re-enter the component serial#"
                        delay = 0
                        do while delay < 25
                           delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                        mc_ser = blank
                    endif
                endif not found
            enddo searched
        endif
        if still_more
* enter property type (mandatory)
            set confirm off
            @ 14,2  say "property type: "
            @ 14,20 say "(Plant / Minor / Other)"
            @ 14,c get mptype PICTURE "@!A"
            read
            do while .not. mptype $ "mMoOpP"
                mptype = " "
                @ 14,c get mptype PICTURE "@!A"
                read
            enddo
            set confirm on
* no property# for other type property
            if upper(mptype) = "O"          &&  ensure it is blank
                mpnum = space(10)
            endif
* enter property# (mandatory for plant and minor property types)
            if upper(mptype) = "M" .or. upper(mptype) = "P"
                @ 15,5 say "property #: "
                no_num = .t.
                do while no_num
                    @ 15,c get mpnum PICTURE "@N!"
                    read
                    if mpnum = space(10)
                        @ 22,12 say "Minor and Plant property "+;
                                    "require a property number "
                        delay = 0
                        do while delay < 25
                           delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        no_num = .f.
                    endif
                enddo
            endif
* enter price and requisition#
            @  17,10 say "price: $"
            @  18,9  say "reqn #: "
            @  17,c get mprice PICTURE "@R 9,999.99"
            @  18,c get mreqn PICTURE "@!R 9999-NNNN/NNNNN"
            read
```

```
* allow editing or abandon current entry
                @ 22,0 clear to 23,79
                @ 22,20 say "Is the above information correct?: :"
                @ 23,26 say "[ Yes / No / Abandon ]"
                set confirm off
                ans = " "
                do while .not. ans $ "yYnNaA"
                    ans = " "
                    @ 22,54  get ans picture "@!A"
                    read
                enddo
                @ 22,15 clear to 23,79
                set confirm on
* clear mvar that controls creating a new owner or home record
                if upper(ans) = "N"
                    @ 9,0 clear to 20,79
                endif
* abandon entry -> clear mvar and close any open dbf
                if upper(ans) = "A"
                    set confirm off
                    close databases
                    release all
                    return
                endif
* place entry into dbf
                if upper(ans) = "Y"       && add mvar to dbf
                    entering = .f.
                    @ 22,10 say;
                        " standby while your entry is placed on file "
* place in parts
                    select parts
                    append blank
                    replace p_model with trim(mmod)
                    replace p_desc with trim(mdesc)
                    replace part_ser with trim(mp_ser)
                    replace comp_ser with trim(mc_ser)
                    replace p_ptype with mptype
                    replace p_pnum with trim(mpnum)
                    replace p_price with mprice
                    replace p_reqn with trim(mreqn)
                endif
            endif still more
        enddo entering
        @ 22,0 clear to 23,79
        @ 22,15 say "Do you have additional parts to enter?: :"
        @ 23,26 say "[ Yes / No ]"
        set confirm off
        ans = " "
        do while .not. ans $ "yYnN"
            ans = " "
            @ 22,54 get ans
            read
        enddo
        if upper(ans) = "N"
            finished = .t.
            clear
        else                          && set up for the next one
            @ 22,0 clear to 23,79
            entering = .t.
            still_more = .t.
            mmod = blank
            mdesc = space(50)
```

```
            mp_ser = blank
            mptype = " "
            mpnum = space(10)
            mprice = 0.00
            mreqn = blank

            @ 22,0 clear to 23,79
            if upper(p_use) = "C"
                @ 22,15 say "Is the next part for the same component?: :"
                @ 23,26 say "[ Yes / No ]"
                ans = " "
                do while .not. ans $"yYnN"
                    ans = " "
                    @ 22,56  get ans
                    read
                enddo
                set confirm on
                @ 22,0 clear to 23,79
                if upper(ans) = "N"
                    mc_ser = blank
                endif
            endif p_use = C
        endif  set up
        @ 4,0 clear to 20,79
    enddo finished
    set confirm off
    release all
    close databases
    return
enddo
* EOF addpart.prg
```

4. ADD_HELP.PRG

```
**********************   Program:  ADD_HELP.PRG     ******************
*
*Author.............:  TIM SEXTON
*Purpose............:  describes the options available to the
*                      user
*Calls..............:  None
*
*Input/Output Files.:  None

* begin the text dialogue
clear
@ 0,17 say "E N T E R   P R O P E R T Y   H E L P   M E N U"
@ 1,0 to 1,79 double
text
                * Designed to enable the user to enter all new
                  Property either a Component or Part.
                * Entering selection is extremely important!!!
                  Ensure all the information is correct.
                * If errors are made, the user should ensure that
                  "NO" or "ABANDON options are selected before
                  continuing on.
                * If a false record is filed by mistake then
                  GOTO the "MODIFY or DELETE" section and follow
                  the instructions to correct the mistake.
endtext
```

```
@ 21,0 TO 21,79
WAIT " -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
text
                                        "CAUTIONS"
                    *  Extremely important that all information is
                       entered correctly
                    *  Mistakes will be made so utilize the "NO" or
                       "ABANDON" commands before resuming
                    *  Recommend using DELETION and ARROW keys for
                       modifying data entered so not to deviate
                       outside designated fields
endtext
@ 21,0 TO 21,79
WAIT " -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
text


                                        "WARNINGS"
                    *  Use of BACKSPACE key can cause PREMATURE exiting
                       of an entry field, loop back for re-entrance of
                       data.
                    *  Serial Numbers must be accurate and precise
endtext
@ 21,0 to 21,79
Wait  " -> press any key to exit"
*EOF ADD_HELP.PRG
```

5. ADHOC.PRG

```
*********************   Program:  ADHOC.PRG   ************************
*
*Author.............:  TIM SEXTON
*Purpose............:  display the menu for queries and lists
*Calls..............:  SLOCATION.PRG, SOWNER.PRG, OWNERS.PRG
*                       PMOD.PRG, PMANF.PRG
*Input/Output Files.:  None

do while .t.
* re-set the system incase a user ESCaped out of one of the
* program selections
   release all
   close databases
   set confirm off
   clear
* display the menu
   @ 2,10 to 17,69 double
   @  3,19 say "          List and Searh Menu"
   @  4,11 to 4,68 double
   @  6,21 say " 1 - Components assigned to a Custodian"
   @  7,21 say " 2 - Components assigned by Locations"
   @  8,21 say " 3 - Custodian Listing"
   @ 10,21 say " 4 - Components of a single Manufacturer"
   @ 11,21 say " 5 - Components of a single Model"
```

```
    @ 13,21 say " H - HELP"
    @ 15,21 say " 0 - Return to MAIN MENU"
    @ 17,30 say " selection : : "
    choice = " "
    @ 17,42 get choice
    read
* place an asterisks next to a valid choice and erase the other
* selections
    if choice $"hH012345"
        do case
            case upper(choice) = "H"
                @ 13,20  say "*"
                choicerow = 13
            case choice = "0"
                @ 15,20  say "*"
                choicerow = 15
            case choice $"123"
                @ 5+val(choice),20  say "*"
                choicerow = 5+val(choice)
            otherwise
                @ 6+val(choice),20 say "*"
                choicerow = 6+val(choice)
        endcase
        firstrow = 6
        rows = 10
        rowcnt = 0
        do while rowcnt < rows
            if rowcnt+firstrow <> choicerow
                @ firstrow+rowcnt,17 say space(50)
            endif
            rowcnt = rowcnt + 1
        enddo
    endif
* do the choice selection if valid or loop back thru this
* program
    do case
        case choice = "0"
            clear
            release all
            return
        case choice = "1"
            do sowner
        case choice = "2"
            do slocation
        case choice = "3"
            do owners
        case choice = "4"
            do pmanf
        case choice = "5"
            do pmod
        case upper(choice) = "H"
            do qry_help
        otherwise
            @ 19,22 say "****** not a valid selection ******"
            ?
            wait
            @ 19,0 clear to 21,79
            loop
    endcase
enddo
*EOF ADHOC.PRG
```

6. DELCOMP.PRG

```
*********************       Program:  DELCOMP.PRG       ***************
*Author.............:  TIM SEXTON
*Purpose............:  delete components and place plant or minor
*                      property in history
*Calls..............:  None
*Reserved...........:  None
*Input/Output Files.:  PARTS.DBF, COMPS.DBF, HISTORY.DBF,
*                      OWNERS.DBF, HOMES.DBF

clear
set confirm on
select e
use history
select d
use parts index c_ser     && indexed on comp_ser
select c
use homes index l_fnames      && indexed on last,first names
select b
use owners index names    && indexed on last,first names
select a
use comps index comp_ser,name_loc      && indexed on comp_ser
                                          && indexed on last,first names

do while .t.
    blank = space(15)
    mmfg = blank
    mmod = blank
    mser = blank
    mloc_code = " "
    mptype = " "
    mpnum = space(10)
    mtoday = date( )
    lname = blank
    fname = blank
    mpart_ser = blank
    entering = .t.
    finished = .f.
    delcomp = .f.
    delpart = .f.
    @ 0,16 say " C O M P O N E N T   D E L E T I O N   S C R E E N"
    @ 1,0 to 1,79 double
    @ 3,0 say "Enter Component"
    @ 21,0 to 21,79
    do while .not. finished          && deleting a component
       do while entering             && componenet information
* entries begin at column 18
          c = 18
          searched = .f.
          do while .not. searched
* enter serial # or exit
             @  2,56 say "date: "
             @  2,61 say mtoday
             @  4,7  say "serial #: "
             @  4,c get mser PICTURE "@N!"
             @ 22,25 say "To EXIT leave serial # blank"
             read
             if mser = blank
                close databases
                release all
```

```
            return
        else
            @ 22,0 clear to 23,79
        endif
* check to see if on file
        select comps
        set order to 1
        goto top
        on_file = .f.
        correct = .f.
        if .not. eof()
            set exact on
            seek trim(mser)
        else
            on_file = .f.
            correct = .f.
        endif
        if found()
            correct = .t.
            mmod = c_model
            mmfg = c_mfg
            mptype = c_ptype
            mpnum = c_pnum
            lname = last_name
            fname = first_name
            mloc_code = loc_code
            @ 6,0 clear to 10,79
            @ 6,12  say "mfg: "
            @ 6,c   say c_mfg
            @ 7,10  say "model: "
            @ 7,c  say c_model
            @ 8,4   say "description: "
            @ 8,c   say c_desc
            @ 9,2   say "property type: "
            do case
                case c_ptype = "P"
                    @ 9,c say "Plant"
                case c_ptype = "M"
                    @ 9,c say "Minor"
                otherwise
                    @ 9,c say "Other"
            endcase
            if c_ptype = "M" .or. c_ptype = "P"
                @ 10,5  say "property #: "
                @ 10,c say c_pnum
            endif
            set confirm off
            ans = " "
            do while .not. ans  $"yYnN"
                ans = " "
                @ 22,22 say "Is this the correct component?: :"
                @ 23,29 say "[ Yes / No ]"
                @ 22,53 get ans picture "@!A"
                read
            enddo
            set confirm on
            @ 22,0 clear to 23,79
            if upper(ans) = "Y"
                on_file = .t.
                searched = .t.
            else
                on_file =.f.
                correct =.t.
                @ 22,11 say   "The component shown is the only "+;
                                "one on file with this serial #"
                delay = 0
                do while delay < 40
```

```
            delay = delay + 1
        enddo
        @ 22,0 clear to 22,79
        @ 22,13 say "Your component is not on "+;
                                "file no need to delete it"
        delay = 0
        do while delay < 40
            delay = delay + 1
        enddo
        @ 22,0 clear to 22,79
    endif
endif found
if .not. found() .or. .not. correct
    @ 22,26 say "Component not on file !!!"
    delay = 0
    do while delay < 40
        delay = delay + 1
    enddo
    @ 22,0 clear to 22,79
    set confirm off
    ans = " "
    do while .not. ans  $"yYnN"
        ans = " "
        @ 22,22 say "Is this the correct serial #?: :"
        @ 23,28 say "[ Yes / No ]"
        @ 22,52 get ans picture "@!A"
        read
    enddo
    @ 22,0 clear to 23,79
    set confirm on
    if upper(ans) = "Y"
        correct = .t.
        on_file = .f.
        @ 22,15 say  "Your component is not on file"+;
                                    " no need to delete it"
        delay = 0
        do while delay < 40
            delay = delay + 1
        enddo
        @ 22,0 clear to 22,79
    else
        correct = .f.
        @ 22,20 say;
            "Please re-enter the component serial # or"
        delay = 0
        do while delay < 40
            delay = delay + 1
        enddo
        @ 22,0 clear to 22,79
        mser = blank
    endif
endif not found
if .not. on_file .and. correct
    @ 22,15 say;
        "Do you have additional components to delete?: :"
    @ 23,29 say "[ Yes / No ]"
    set confirm off
    ans = " "
    do while .not. ans $ "yYnN"
        ans = " "
        @ 22,60 get ans
        read
    enddo
    set confirm on
    if upper(ans) = "N"
        set confirm off
```

```
                release all
                close databases
                return
            else
                mser = blank
                correct = .f.
                @ 6,0 clear to 10,79
                @ 22,0 clear to 23,79
            endif
        endif not on file and done
    enddo searched
* check to see parts are on file for this component
    select parts
    goto top
    if eof()
        delpart =.f.
        delcomp = .t.
    else
        set exact on
        seek trim(mser)     && component serial #
    endif
    if .not. found()     && no parts for this component
        delpart =.f.
        delcomp = .t.
    endif   not found
    if found()
        @ 12,5 say;
          "The following PART(S) are on file for this component:"
        @ 14,5 say "Model"
        @ 14,18 say "Property Type"
        @ 14,36 say "Property #"
        line = 15
        do while comp_ser = mser .and. .not. eof()
            @ line,5 say p_model
            @ line,23 say p_ptype
            @ line,36 say p_pnum
            skip
            line = line + 1
            if line = 20
                @ 22,23 say "Additional parts are on file"
                delay = 0
                do while delay < 50
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
                @ 15,0 clear to 19,79
                line = 15
            endif
        enddo
        @ 22,0 clear to 23,79
        @ 22,19 say "Do you wish to delete the PART(S)?: :"
        @ 23,26 say "[ Yes / No ]"
        set confirm off
        ans = " "
        do while .not. ans $ "yYnN"
            ans = " "
            @ 22,54 get ans
            read
        enddo
        set confirm on
        if upper(ans) = "N"
            @ 22,0 clear to 23,79
            @ 22,5 say "The PART(S) must be reassigned"+;
                                " before this component can be deleted"
            delay = 0
            do while delay < 40
```

```
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
                @ 22,16 say;
                    "Do you have additional components to delete?: :"
                @ 23,29 say "[ Yes / No ]"
                set confirm off
                ans = " "
                do while .not. ans $ "yYnN"
                    ans = " "
                    @ 22,61 get ans
                    read
                enddo
                set confirm on
                if upper(ans) = "N"
                    set confirm off
                    release all
                    close databases
                    return
                else
                    mser = blank
                    @ 22,0 clear to 23,79
                    @ 4,0 clear to  20,79
                endif
            else              && ans = yes
                delpart = .t.
                delcomp = .t.
                @ 22,0 clear to 23,79
            endif
        endif   found
        if delcomp
* allow editing or abandon current entry
            @ 22,0 clear to 23,79
            @ 22,16 say "Do you wish to delete this component?: :"
            @ 23,26 say "[ Yes / No ]"
            set confirm off
            ans = " "
            do while .not. ans $ "yYnNaA"
                ans = " "
                @ 22,54  get ans picture "@!A"
                read
            enddo
            @ 22,15 clear to 23,79
            set confirm on
* clear mvar that controls deleting a component or part record
            if upper(ans) = "N"
                @ 22,20 say "Please re-enter a component serial # or"
                delay = 0
                do while delay < 40
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
                mser = blank
                delcomp = .f.
                delpart = .f.
                @ 9,0 clear to 20,79
                @ 4,0 clear to  20,79
            endif

            if upper(ans) = "Y"       && delete records
                entering = .f.
                @ 22,0 clear to 23,79
            endif
        endif delcomp
```

```
enddo entering
@ 22,20 say  " Standby while the component is deleted "
if delcomp
    select comps
    goto top
    set exact on
    delete for comp_ser = trim(mser)
    select history
    append blank
    replace mfg with trim(mmfg)
    replace model with trim(mmod)
    replace serial_num with trim(mser)
    replace ptype with mptype
    replace pnum with trim(mpnum)
    replace del_date with mtoday
endif delcomp
if delpart
    select parts
    goto top
    set exact on
    seek trim(mser)
    if found()
        do while mser = trim(comp_ser)  .and. .not. eof()
            mpart_ser = part_ser
            mmod = p_model
            mptype = p_ptype
            mpnum = p_pnum
            if upper(mptype) <> "0"     && only plant or minor
                select history
                append blank
                replace model with trim(mmod)
                replace serial_num with trim(mpart_ser)
                replace ptype with mptype
                replace pnum with trim(mpnum)
                replace del_date with mtoday
            endif
            skip
        enddo
    endif
    select parts
    goto top
    set exact on
    delete all for comp_ser = trim(mser)
endif delpart
* check to see if owner has more property on file
    select comps
    set order to 2
    goto top
    if eof()
        delowner = .t.
        delhome = .t.
    else
        set exact off
        seek trim(lname),trim(fname)
    endif
    if .not. found()
        delowner = .t.
        delhome = .t.
    endif  not found
    if found()
        delowner = .t.
        delhome = .t.
```

```
            do while last_name = trim(lname) .and.;
                  first_name = trim(fname) .and. .not. eof()
               do case
                  case upper(loc_code) = "H"
                        delhome = .f.
                        delowner = .f.
                   case upper(loc_code) = "O"
                        delowner = .f.
               endcase
               skip
            enddo
         endif  found
      * no need to delete AS DEPT (labs or storage)
         if mloc_code = "L" .or. mloc_code = "S"
            delhome = .f.
            delowner = .f.
         endif
         if delowner
            select owners
            set exact off
            goto top
            delete for last_name = trim(lname) .and.;
                                        first_name = trim(fname)
         endif
         if delhome .and. mloc_code = "H"
            select homes
            goto top
            set exact off
            delete for last_name = trim(lname) .and.;
                                              first_name = trim(fname)
            select owners
            set exact off
            goto top
            delete for last_name = trim(lname) .and.;
                        first_name = trim(fname) .and.  location = "HOME"
         endif
         @ 22,0 clear to 23,79
         @ 22,16 say "Do you have additional components to delete?: :"
         @ 23,26 say "[ Yes / No ]"
         set confirm off
         ans = " "
         do while .not. ans $ "yYnN"
            ans = " "
            @ 22,61 get ans
            read
         enddo
         if upper(ans) = "N"
            finished = .t.
            clear
         else                          && set up for the next one
            @ 22,0 clear to 23,79
            mmfg = blank
            mmod = blank
            mser = blank
            mloc_code = " "
            mptype = " "
            mpnum = space(10)
            mtoday = date( )
            lname = blank
            fname = blank
            mpart_ser = blank
            entering = .t.
```

```
            finished = .f.
        endif  set up
        @ 4,0 clear to 20,79
    enddo finished
    @ 8,15 say "*****   Standby while the files are updated   *****"
    select comps
    pack
    select parts
    pack
    select owners
    pack
    select homes
    pack
    set confirm off
    release all
    close databases
    return
enddo
* EOF delcomp.prg
```

7. DELMENU.PRG

```
*********************   Program:  DELMENU.PRG     *******************
*
*Author.............:  TIM SEXTON
*Purpose............:  displays the choice to delete parts
*                      or components, and place them in the history
*                      file
*Calls..............:  DELCOMP.PRG,DELPART.PRG
*
*Input/Output Files.:  None

* set up the screen environment
clear
set confirm off
* begin the menu dialogue
do while .t.
    clear
    @  2,10 to 13,69 double
    @  3,30 say "Delete Property Menu"
    @  4,11 to 4,68 double
    @  6,27 say " 1 - COMPONENT deletion"
    @  7,27 say " 2 - PART deletion"
    @  9,27 say " H - HELP"
    @ 11,27 say " 0 - RETURN to main menu"
    @ 13,30 say " selection : : "
    choice = " "
    @ 13,42 get choice
    read
* place an asterisks next to a valid choice, and erase the other
* rows
    if choice $ "hH012"
        do case
            case upper(choice) = "H"
                @ 9,26  say "*"
                choicerow = 9
            case choice = "0"
                @ 11,26  say "*"
                choicerow = 11
```

```
            otherwise
                @ 5+val(choice),26  say "*"
                choicerow = 5+val(choice)
        endcase
        firstrow = 6
        rows = 7
        rowcnt = 0
        do while rowcnt < rows
            if rowcnt+firstrow <> choicerow
                @ firstrow+rowcnt,27 say space(25)
            endif
            rowcnt = rowcnt + 1
        enddo
    endif
* do a valid choice or loop back thru this program
    do case
        case choice = "0"
            return
        case choice = "1"
            do delcomp
        case choice = "2"
            do delpart
        case upper(choice) = "H"
            do del_help.prg
        otherwise
            @ 17,22 say "****** not a valid  selection ******"
            ?
            wait
            loop
    endcase
enddo
* EOF DELMENU.PRG
```

8. DELPART.PRG

```
*********************       Program:  DELPART.PRG       ***************
*Author.............:  TIM SEXTON
*Purpose............:  delete parts and place plant or minor property
*                      in history
*Calls..............:  None
*Reserved...........:  None
*Input/Output Files.:  PARTS.DBF, HISTORY.DBF

clear
set confirm on
set exact on
select c
use history
select b
use parts index c_ser    && indexed on comp_ser
select a
use comps index comp_ser,name_loc     && indexed on comp_ser
                                         && indexed on last,first names

do while .t.
    usage = " "
    blank = space(15)
    mmod = blank
    description = space(50)
    mpart_ser = blank
    mptype = " "
    mpnum = space(10)
    component = blank
```

```
    mtoday = date( )
    mc_mod = blank
    mc_mfg = blank
    mc_desc = space(50)
    mc_ptype = " "
    mc_pnum = space(10)
    lname = blank
    fname = blank
    entering = .t.
    finished = .f.
    delete_it = .f.

    @ 0,20 say " P A R T   D E L E T I O N   S C R E E N"
    @ 1,0 to 1,79 double
    @ 21,0 to 21,79
    do while .not. finished          && deleting  parts
        entering = .t.
        do while entering             && part information
            find_use = .t.
            do while find_use

                located = .f.
* entries begin at column 18
                c = 18
                @ 3,0 clear to 20,79
                @  2,56 say "date: "
                @  2,61 say mtoday
                @ 3,0 say "Enter Part"
* enter use or exit
                @  4,2  say "current usage: "
                @  4,20 say "(Storage / Component)"
                set confirm off
                @  4,c get usage picture "@N!"
                @ 22,25 say "To EXIT leave current usage blank"
                read
                do while .not. usage $ " sScC"
                    usage = " "
                    @  4,c get usage picture "@N!"
                    read
                enddo
                set confirm on
                if usage = " "
                    set confirm off
                    close databases
                    release all
                    return
                else
                    @ 22,0 clear to 23,79
                endif
                if upper(usage) = "S"
                    @  3,0 clear to 20,79
                    locating = .f.
                    located = .t.
                    component = blank
                    find_use = .f.
                endif
                if upper(usage) = "C"
                    @  4,0 clear to 20,79
                    @ 3,0 say "Enter Component"
                    @  4,8  say "serial#: "
                    locating  = .t.
                endif
```

```
                on_file = .t.
                sought = .f.
                do while locating
                    @  4,c  get component picture "@N!"
                    @ 22,0 clear to 23,79
                    @ 22,16 say;
                        "To ABANDON component entry leave serial # blank"
                    read
                    if component = blank
                        locating = .f.
                        usage = " "
                        @ 22,0 clear to 23,79
                    else
                        @ 22,0 clear to 23,79
* check to see if component on file
                        select comps
                        set order to 1
                        goto top
                    endif
                    if .not. eof()
                        seek trim(component)
                        sought = .t.
                    else
                        on_file = .f.
                    endif
                    if found() .and. sought
                        mc_mod = c_model
                        mc_mfg = c_mfg
                        mc_ptype = c_ptype
                        mc_pnum = c_pnum
                        lname = last_name
                        fname = first_name
                        @ 6,0 clear to 10,79
                        @ 6,12  say "mfg: "
                        @ 6,c   say c_mfg
                        @ 7,10  say "model: "
                        @ 7,c  say c_model
                        @ 8,4   say "description: "
                        @ 8,c   say c_desc
                        @ 9,2   say "property type: "
                        do case
                            case c_ptype = "P"
                                @ 9,c say "Plant"
                            case c_ptype = "M"
                                @ 9,c say "Minor"
                            otherwise
                                @ 9,c say "Other"
                        endcase
                        if c_ptype = "M" .or. c_ptype = "P"
                            @ 10,5  say "property #: "
                            @ 10,c say c_pnum
                        endif
                        set confirm off
                            ans = " "
                        do while .not. ans  $"yYnN"
                            ans = " "
                            @ 22,0 clear to 23,79
                            @ 22,22 say "Is this the correct component?: :"
                            @ 23,29 say "[ Yes / No ]"
                            @ 22,53 get ans picture "@!A"
                            read
                        enddo
                        set confirm on
                        @ 22,0 clear to 23,79
                        if upper(ans) = "Y"
                            locating = .f.
```

```
                located = .t.
                find_use = .f.
            else
                @ 22,11 say "The component shown is the only "+;
                                "one on file with this serial #"
                delay = 0
                do while delay < 40
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
                @ 22,18 say "Check the component"+;
                                " serial #, part usage, or"
                locating =.f.
                usage = " "
                component= blank
                delay = 0
                do while delay < 40
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
            endif
        endif found
        if (.not. found() .or. .not. on_file) .and. locating
            @ 22,0 clear to 23,79
            @ 22,26 say "Component not on file !!!"
            delay = 0
            do while delay < 40
                delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
            set confirm off
            ans = " "
            do while .not. ans  $"yYnN"
                ans = " "
                @ 22,22 say "Is this the correct serial #?: :"
                @ 23,28 say "[ Yes / No ]"
                @ 22,52 get ans picture "@!A"
                read
            enddo
            @ 22,0 clear to 23,79
            set confirm on
            if upper(ans) = "Y"
                @ 22,18 say "Check the component"+;
                                    " serial #, part usage, or"
                delay = 0
                do while delay < 40
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
                usage = " "
                component= blank
                locating = .f.
            else
                @ 22,20 say "Please re-enter "+;
                                "the component serial # or"
                delay = 0
                do while delay < 40
                    delay = delay + 1
                enddo
                component = blank
                @ 22,0 clear to 22,79
            endif
        endif not found
    enddo locating
```

```
enddo find_use
checking = .t.
do while checking .and. located
    delete_it = .f.
    @ 3,0 clear to 20,79
    @ 3,0 say "Fill in if known:"
    @ 4,5 say "Part model: "
    @ 4,c get mmod picture "@N!"
    read
    @ 5,7 say "serial #:  "
    @ 5,c get mpart_ser picture "@N!"
    read
    set confirm off
    @ 6,10 say "ptype:    (Plant/Minor/Other)"
    @ 6,c get mptype  picture "@N!"
    read
    do while .not. mptype $ " oOmMpP"
        mptype = " "
        @ 6,c get mptype picture "@N!"
        read
    enddo
    set confirm on
    @ 7,5 say "property #: "
    @ 7,c get mpnum picture "@N!"
    read
    rec = -1
    more = .f.
    select parts
    goto top
    done = .f.
    aa = .f.
    bb = .f.
    cc = .f.
    dd = .f.
    ee = .f.
    if mpart_ser <> blank .and. .not. done
        aa = .t.
        done = .t.
        locate for part_ser = trim(mpart_ser) .and.;
                    comp_ser = trim(component)
        if found()
            rec = recno()
        endif
    endif
    if mmod <> blank .and. .not. done
        bb = .t.
        done = .t.
        locate for p_model = trim(mmod) .and.;
                    comp_ser = trim(component)
        if found()
            rec = recno()
            continue
            if found()
                more = .t.
            endif
        endif
    endif
    if mptype <> " " .and. .not. done
        cc = .t.
        done = .t.
        locate for p_ptype = mptype .and.;
                    comp_ser = trim(component)
        if found()
```

```
        rec = recno()
        continue
        if found()
            more = .t.
            endif
        endif
endif
if mpnum <> space(10) .and. .not. done
    dd = .t.
    done = .t.
    locate for p_pnum = trim(mpnum) .and.;
                comp_ser = trim(component)
    if found()
        rec = recno()
        continue
        if found()
            more = .t.
        endif
    endif
endif
if .not. done
    ee = .t.
    done = .t.
    locate for comp_ser = trim(component)
    if found()
        rec = recno()
        continue
        if found()
            more = .t.
        endif
  endif
endif
do case
    case rec <> -1 .and. .not. more
        goto record rec
        @ 3,0 clear to 20,79
        @ 3,0 say "Only one part on file:"
        @ 5,10  say "model: "
        @ 5,c  say p_model
        @ 6,4   say "description: "
        @ 6,c   say p_desc
        @ 7,2   say "property type: "
        do case
            case p_ptype = "P"
                @ 7,c say "Plant"
            case p_ptype = "M"
                @ 7,c say "Minor"
            otherwise
                @ 7,c say "Other"
        endcase
        if p_ptype = "M" .or. p_ptype = "P"
            @ 8,5  say "property #: "
            @ 8,c say p_pnum
        endif
        set confirm off
        ans = " "
        do while .not. ans  $"yYnN"
            ans = " "
            @ 22,26 say "Is this the correct part?: :"
            @ 23,32 say "[ Yes / No ]"
            @ 22,52 get ans picture "@!A"
            read
        enddo
        set confirm on
        @ 22,0 clear to 23,79
```

```
                    if upper(ans) = "N"
                        @ 22,16 say "Your PART cannot be found, and"+;
                                                    " may not be on file"
                        delay = 0
                        do while delay < 40
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
*exit checking
                        component =  blank
                        usage = " "
                        checking = .f.
                    else                && ans = yes
                        delete_it = .t.
                        checking = .f.
                        @ 22,0 clear to 23,79
                    endif
                endif ans

                case  rec = -1
                    @ 22,16 say "Your PART cannot be found, and"+;
                                                    " may not be on file"
                    delay = 0
                    do while delay < 40
                        delay = delay + 1
                    enddo
                    @ 22,0 clear to 22,79
                    component =  blank
                    usage = " "
                    checking = .f.

                case rec <> -1 .and. more
                    goto record rec
                    still_more = .t.
                    correct = .f.
                    @ 3,0 clear to 20,79
                    @ 3,0 say "More than one part on file:"
                    @ 4,0 say " (select the correct part)"
                    do while still_more
                        @ 5,c clear to 9,79
                        @ 6,10  say "model: "
                        @ 6,c  say p_model
                        @ 7,4   say "description: "
                        @ 7,c   say p_desc
                        @ 8,2   say "property type: "
                        do case
                            case p_ptype = "P"
                                @ 8,c say "Plant"
                            case p_ptype = "M"
                                @ 8,c say "Minor"
                            otherwise
                                @ 8,c say "Other"
                        endcase
                        if p_ptype = "M" .or. p_ptype = "P"
                            @ 9,5  say "property #: "
                            @ 9,c say p_pnum
                        endif
                        set confirm off
                        ans = " "
                        do while .not. ans  $"aAyYnN"
                            ans = " "
                            @ 22,26 say "Is this the correct part?: :"
                            @ 23,26 say "[ Yes / No / Abandon ]"
                            @ 22,52 get ans picture "@!A"
                            read
```

```
        enddo
        set confirm on
        @ 22,0 clear to 23,79
        if upper(ans) = "A"
            correct = .t.
            still_more = .f.
            component = blank
            usage = " "
            checking = .f.
        endif
        if eof()
            still_more = .f.
            checking = .f.
        endif
        if upper(ans) = "N" .and. .not. eof()
            skip
            do case
                case aa
                    if part_ser = trim(mpart_ser) .and.;
                                  comp_ser = trim(component)
                        rec = recno()
                    rec = recno()
                    else
                        still_more = .f.
                    endif
                case bb
                    if p_model = trim(mmod) .and.;
                                  comp_ser = trim(component)
                        rec = recno()
                    else
                        still_more = .f.
                    endif
                case cc
                    if p_ptype = mptype .and.;
                                  comp_ser = trim(component)
                        rec = recno()
                    else
                        still_more = .f.
                    endif
                case dd
                    if p_pnum = trim(mpnum) .and.;
                                  comp_ser = trim(component)
                        rec = recno()
                    else
                        still_more = .f.
                    endif
                case ee
                    if comp_ser = trim(component)
                        rec = recno()
                    else
                        still_more = .f.
                    endif
            endcase
        endif
        if upper(ans) = "Y" .and. .not. eof()
            delete_it = .t.
            correct = .t.
            still_more = .f.
            checking = .f.
        endif
    enddo still_more
    if .not. correct .and. .not. still_more
        @ 3,0 clear to 11,79
        @ 22,16 say "Your PART cannot be found, and"+;
```

```
                                                    " may not be on file"
                    delay = 0
                    do while delay < 50
                       delay = delay + 1
                    enddo
                    @ 22,0 clear to 22,79
                    component =  blank
                    usage = " "
                    checking = .f.
                endif
    endcase
enddo checking

if delete_it
    @ 22,19 say "Do you wish to delete this PART?: :"
    @ 23,26 say "[ Yes / No ]"
    set confirm off
    ans = " "
    do while .not. ans $ "yYnN"
        ans = " "
        @ 22,52 get ans
        read
    enddo
    set confirm on
    @ 22,0 clear to 23,79
    if upper(ans) = "N"
        delete_it = .f.
    endif
endif
if located .and. .not. delete_it
    @ 22,16 say "Do you have additional parts to delete?: :"
    @ 23,26 say "[ Yes / No ]"
    set confirm off
        ans = " "
    do while .not. ans $ "yYnN"
        ans = " "
        @ 22,56 get ans
        read
    enddo
    set confirm on
    if upper(ans) = "N"
        set confirm off
        release all
        close databases
        return
    else
        component =  blank
        usage = " "
        @ 22,0 clear to 23,79
    endif
endif
if delete_it
    @ 22,23 say " Standby while the part is deleted "
    select parts
    goto rec
    mptype = p_ptype
    if upper(mptype) = "P" .or. upper(mptype) = "M"
        select history
        append blank
        replace model with trim(mmod)
        replace serial_num with trim(mpart_ser)
        replace ptype with mptype
        replace pnum with trim(mpnum)
        replace del_date with mtoday
```

```
                endif
                select parts
                delete
                @ 22,0 clear to 23,79
                @ 22,16 say "Do you have additional parts to delete?: :"
                @ 23,26 say "[ Yes / No ]"
                set confirm off
                ans = " "
                do while .not. ans $ "yYnN"
                    ans = " "
                    @ 22,61 get ans
                    read
                enddo
                if upper(ans) = "N"
                    entering = .f.
                    finished = .t.
                else                              && set up for the next one
                    @ 22,0 clear to 23,79
                    usage = " "
                    mmod = blank
                    description = space(50)
                    mpart_ser = blank
                    mptype = " "
                    mpnum = space(10)
                    component = blank
                    mtoday = date( )
                    mc_mod = blank
                    mc_mfg = blank
                    mc_desc = space(50)
                    mc_ptype = " "
                    mc_pnum = space(10)
                    lname = blank
                    fname = blank
                    entering = .t.
                    delete_it = .f.
                    @ 4,0 clear to 20,79
                endif  set up
            endif delete it
        enddo entering
        @ 8,15 say;
               "*****   Standby while the files are updated   *****"
        select parts
        pack
    enddo finished
        set confirm off
        release all
        close databases
        return
enddo
* EOF delpart.prg
```

9. DEL_HELP.PRG

```
*********************   Program:  DEL_HLP.PRG      ******************
*
*Author.............:  TIM SEXTON
*Purpose............:  describes the options available to the
*                      user
*Calls..............:  None
*
```

```
*Input/Output Files.:  None

* begin the text dialogue
clear
@ 1,0 to 1,79 double
@ 0,16 say "D E L E T E   P R O P E R T Y   H E L P   M E N U"
text


                * Deletions are made by either Component Serial #
                  or by Part
                * Correct serial number must be known, when
                  requested, components are deleted by serial #
                * When deleting a component, any parts assigned to
                  that component must be deleted or re-assigned
                * To delete a part, first identify if the desired
                  part is presently in storage or assigned to a
                  component

endtext
@ 21,0 to 21,79
Wait "  -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
text
                                        "CAUTIONS"
                * Extremely important that all information is
                  entered correctly
                * Mistakes will be made so utilize the "NO" or
                  "ABANDON" commands before resuming
                * Recommend using DELETION and ARROW keys for
                  modifying data entered and ensure not to deviate
                  outside designated fields
endtext
@ 21,0 to 21,79
Wait "  -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
text
                                        "WARNINGS"
                * Use of BACKSPACE key can cause PREMATURE exiting
                  of an entry field, loop back for re-entrance of
                  data
                * Serial Numbers must be accurate and precise
                * There is no recovery for deleted property,
                  ensure you a certain you are deleting the proper
                  item
endtext
@ 21,0 to 21,79
Wait "  -> press any key to exit"
clear
*EOF DEL_HELP.PRG
```

10. MAIN_HELP.PRG

```
**********************   Program:  MAIN_HLP.PRG     ******************
*
*Author.............:  TIM SEXTON
*Purpose............:  describes the options available to the
*                      user
*Calls..............:  None
*
*Input/Output Files.:  None

* begin the text dialogue
clear
@ 1,0 to 1,79 double
@ 0,27 say "M A I N   H E L P   M E N U"
text

                    Welcome to the Property Management Help Menu
               This menu is designed to help the unfamiliar user
               identify and understand those areas of difficulty
               which are encountered while utilizing this application
               program.  The Help Menu is categorized into five areas
               of concern which will be identified as follows:

                         1.  Lists and Searches
                         2.  Property Report Printing
                         3.  Entering Property
                         4.  Deleting Property
                         5.  Modifying Property
endtext
@ 21,0  to 21,79
Wait "   -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
@ 0,23 say "L I S T S   A N D   S E A R C H E S"
text



               *  Designed to provide the user with property lists
                  and answers to queries
               *  Queries are made to identify owners and locations
                  of property concerned
endtext
@ 21,0  to 21,79
Wait "   -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
@ 0,17 say "P R O P E R T Y   R E P O R T   P R I N T I N G"
text



               *  Ensure Printer is ON and READY
               *  Reports are pre-formatted
               *  Provides two types of Reports, namely:
                     **  Quarterly---Grouped by Custodian/Owner
                     **  Summary-----Grouped by Property Type
                                      and Property Number
```

```
endtext
@ 21,0  to 21,79
Wait "   -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
@ 0,24 say "E N T E R I N G   P R O P E R T Y"
text


                * Property is entered as a Component or a Part,
                  parts  are items used in a component (eg. card)
                * Mfg Serial Numbers is required for component entry
                * Part Model is required for part entry
                * Custodian and Location must be known for
                  component entries, parts require a component
                  serial # if not being placed into storage
endtext
@ 21,0  to 21,79
Wait "   -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
@ 0,24 say "D E L E T I N G   P R O P E R T Y"
text


                * Deletes current data by two methods:
                        1.   Component
                        2.   Part
                * Serial Numbers are inputted to identify component
                  or part to be deleted from database
                * Ensure correct entry to avoid costly re-entrance
endtext
@ 21,0  to 21,79
Wait "   -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
@ 0,22 say "M O D I F Y I N G   P R O P E R T Y"
text


                * Modifications are made to components and parts
                  changing accountability or to the record itself
                * Serial Numbers are required to access the data
                  to be updated in the database
                * Modifications cannot be made until data has been
                  entered
                * Once modifications are entered be sure to answer
                  promts correctly in order that new modified data
                  be recorded into the database
endtext
@ 21,0  to 21,79
Wait "   -> press any key to exit"
```

```
*   EOF MAIN_HLP.PRG
```

11. MODCOMP.PRG

```
*********************      Program:  MODCOMP.PRG        **************
*Author.............:  TIM SEXTON
*Purpose............:  allows the modification of the component
*                      record, with the exception of the fields to
*                      assign ownership. If the serial # is changed,
*                      then parts with that serial # are also changed
*                      accordingly
*Calls..............:  None
*Input/Output Files.:  COMPS.DBF, PARTS.DBF


clear
set confirm on
select b
use parts index c_ser
select a
use comps index comp_ser,name_loc
do while .t.
    blank = space(15)
    mmfg = blank
    mmod = blank
    mdesc = space(50)
    mser = blank
    mptype = " "
    mpnum = space(10)
    mprice = 0.00
    mreqn = blank
    mloc_code = " "
    mtoday = date( )
    mlname = blank
    mfname = blank
    finished = .f.

    @ 0,16 say " M O D I F Y   C O M P O N E N T   S C R E E N"
    @ 1,0 to 1,79 double
    do while .not. finished          && modifying a component

        @ 21,0 to 21,79
        @  2,56 say "date: "
        @  2,61 say mtoday
        searched = .f.
        do while .not. searched
* enter serial # or exit
            entering = .t.
            do while entering              && componenet information
                @  3,0  say "Enter Component:"
                c = 18                  && entries begin at column 18
                @  4,7  say "serial #: "
                @  4,c get mser PICTURE "@N!"
                @ 22,28 say "To EXIT leave serial # blank"
                read
```

```
                if mser = blank
                    set confirm off
                    close databases
                    release all
                    return
                else
                    @ 22,0 clear to 23,79
                endif
* check to see if on file
                select comps
                set order to 1
                goto top
                on_file = .f.
                correct = .f.
                rec = -1
                if .not. eof()
                    set exact on
                    seek trim(mser)
                else
                    on_file = .f.
                    correct = .f.
                endif
                if found()
                    rec = recno()
                    correct = .t.
                    @ 3,0 clear to 20,79
                    mmod = c_model
                    mmfg = c_mfg
                    mdesc = c_desc
                    mptype = c_ptype
                    mpnum = c_pnum
                    mprice = c_price
                    mreqn = c_reqn
                    mlname = last_name
                    mfname = first_name
                    mloc_code = loc_code
                    @  3,6  say "Custodian: "
                    @  3,c say  trim(last_name) +", " + first_name
                    @  4,1  say "designated use: "
                    do case
                        case loc_code = "O"
                            @ 4,c say "Office"
                        case loc_code = "H"
                            @ 4,c say "Home"
                        case loc_code = "L"
                            @ 4,c say "Lab"
                        otherwise
                            @ 4,c say "Storage"
                    endcase
                    @  6,12 say "mfg: "
                    @  6,c  say mmfg
                    @  7,10 say "model: "
                    @  7,c  say mmod
                    @  8,7  say "serial #: "
                    @  8,c  say mser
                    @  9,4  say "description: "
                    @  9,c  say mdesc
                    @ 11,2  say "property type: "
                    do case
                        case c_ptype = "P"
                            @ 11,c say "Plant"
                        case c_ptype = "M"
                            @ 11,c say "Minor"
                        otherwise
                            @ 11,c say "Other"
                    endcase
```

```
        if c_ptype = "M" .or. c_ptype = "P"
            @ 12,5  say "property #: "
            @ 12,c say c_pnum
        endif
        @  14,10 say "price: $"
        @  14,c  say c_price
        @  15,9  say "reqn #: "
        @  15,c say c_reqn PICTURE "@!R 9999-NNNN/NNNNN"
        set confirm off
        ans = " "
        do while .not. ans  $"yYnN"
            ans = " "
            @ 22,25 say "Is this the correct component?: :"
            @ 23,33 say "[ Yes / No ]"
            @ 22,56 get ans picture "@!A"
            read
        enddo
        set confirm on
        @ 22,0 clear to 23,79
        if upper(ans) = "Y"
            on_file = .t.
            searched = .t.
            entering = .f.
        else
            on_file =.f.
            correct =.t.
            @ 22,10 say;
                    "The component shown is the only one "+;
                                    "on file with this serial #"
            delay = 0
            do while delay < 40
                delay = delay + 1
            enddo
            @ 22,0 clear to 23,79
            @ 22,14 say  "Your component maybe not on "+;
                                    "file, check the serial #"
            delay = 0
            do while delay < 40
                delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
            @ 3,0 clear to 20,79
        endif
    endif found
    if .not. found() .or. .not. correct
        @ 22,28 say "Component not on file !!!"
        delay = 0
        do while delay < 40
            delay = delay + 1
        enddo
        @ 22,0 clear to 22,79
        set confirm off
        ans = " "
        do while .not. ans  $"yYnN"
            ans = " "
            @ 22,25 say "Is this the correct serial #?: :"
            @ 23,33 say "[ Yes / No ]"
            @ 22,55 get ans picture "@!A"
            read
        enddo
        @ 22,0 clear to 23,79
        set confirm on
        if upper(ans) = "Y"
            correct = .t.
            on_file = .f.
            @ 22,14 say  "Your component maybe not on "+;
```

```
                                                    "file, check the serial #"
                        delay = 0
                        do while delay < 40
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        correct = .f.
                        @ 22,20 say;
                                "Please re-enter the component serial #"
                        delay = 0
                        do while delay < 40
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                        mser = blank
                    endif
                endif not found
                if .not. on_file .and. correct
                    mser = blank
                endif not on file and done
            enddo entering
        enddo searched
* allow editing the component record
        new_mfg = blank
        new_mod = blank
        new_desc = space(50)
        new_ser = blank
        new_ptype = " "
        new_pnum = space(10)
        new_price = 0.00
        new_reqn = blank
        change_it =.t.
        changed = .f.
        do while change_it .and.;
                        .not. changed     && componenet information
            @ 6,c clear to 20,79
            @ 22,16 say;
                    "Make required changes, press RETURN when correct"
            new_mfg = mmfg
            @  6,c  get new_mfg  PICTURE "@N!"
            read
            new_mod = mmod
            @  7,c  get new_mod  PICTURE "@N!"
            read
* enter mfg serial# (mandatory)
            no_ser = .t.
            do while  no_ser
                new_ser = mser
                @ 8,c get new_ser PICTURE "@N!"
                read
                if new_ser = blank
                    @ 22,0 clear to 22,79
                    @ 22,24 say "serial # may not be blank"
                    delay = 0
                    do while delay < 25
                        delay = delay + 1
                    enddo
                    @ 22,0 clear to 22,79
                    @ 22,16 say "Make required changes"+;
                                        ", press RETURN when correct"
                else
                    no_ser =.f.
                endif
```

```
            enddo
            new_desc = mdesc
            @  9,c  get new_desc PICTURE "@N!"
            read
* enter property type (mandatory)
            set confirm off
            @ 11,20 say "(Plant / Minor / Other)"
            new_ptype = mptype
            @ 11,c get new_ptype PICTURE "@!A"
            read
            do while .not. new_ptype $ "mMoOpP"
                new_ptype = mptype
                @ 11,c get new_ptype PICTURE "@!A"
                read
            enddo
            set confirm on
* no property# for other type property
            if upper(new_ptype) = "O"          &&  ensure it is blank
                @ 12,0 clear to 12,79
                new_pnum = space(10)
            endif
* enter property# (mandatory for plant and minor property types)
            if upper(new_ptype) = "M" .or. upper(new_ptype) = "P"
                @ 12,5 say "property #: "
                no_num = .t.
                do while no_num
                    new_pnum = mpnum
                    @ 12,c get new_pnum PICTURE "@N!"
                    read
                    if new_pnum = space(10)
                        @ 22,0 clear to 22,79
                        @ 22,12 say "Minor and Plant property "+;
                                    "require a property number"
                        delay = 0
                        do while delay < 25
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                        @ 22,16 say "Make required changes"+;
                                    ", press RETURN when correct"
                    else
                        no_num = .f.
                    endif
                enddo
            endif
* enter price and requisition#
            new_price = mprice
            @  14,c get new_price PICTURE "@R 99,999.99"
            read
            new_reqn = mreqn
            @  15,c get new_reqn PICTURE "@!R 9999-NNNN/NNNNN"
            read
            set confirm off
            @ 22,0 clear to 22,79
            ans = " "
            do while .not. ans  $"aAyYnN"
                ans = " "
                @ 22,25 say "Are the modifications correct?: :"
                @ 23,29 say "[ Yes / No / Abandon]"
                @ 22,56 get ans picture "@!A"
                read
            enddo
            @ 22,0 clear to 23,79
            set confirm on
            if upper(ans) = "A"
```

```
            change_it = .f.
        endif
        if upper(ans) = "Y"       && add mvar to dbf
            changed = .t.
        endif
    enddo change
* if original record was changed replace the old fields
* with the new ones
    if changed
        set confirm off
        @ 22,0 clear to 22,79
        ans = " "
        do while .not. ans  $"yYnN"
            ans = " "
            @ 22,18 say;
                    "Do you wish to file the modified component?: :"
            @ 23,29 say "[ Yes / No ]"
            @ 22,62 get ans picture "@!A"
            read
        enddo
        @ 22,0 clear to 23,79
        set confirm on
        if upper(ans) = "N"
            changed = .f.
        endif
        if upper(ans) = "Y"       && add mvar to dbf
            @ 22,20 say "Standby while your entry is placed on file"
* place in comps
            select comps
            goto rec
            replace c_mfg with trim(new_mfg)
            replace c_model with trim(new_mod)
            replace c_desc with trim(new_desc)
            replace comp_ser with trim(new_ser)
            replace c_ptype with new_ptype
            replace c_pnum with trim(new_pnum)
            replace c_price with new_price
            replace c_reqn with trim(new_reqn)
            changed = .f.
* replace comp_ser in parts file
            select parts
            goto top
            set exact on
            replace comp_ser with trim(new_ser) for;
                                                comp_ser = trim(mser)
        endif
    endif changed
    if .not. changed
        @ 22,0 clear to 23,79
        @ 22,14 say "Do you have additional component"+;
                                                    " records to modify?: :"
        @ 23,34 say "[ Yes / No ]"
        set confirm off
        ans = " "
        do while .not. ans $ "yYnN"
            ans = " "
            @ 22,66 get ans
            read
        enddo
        if upper(ans) = "N"
            finished = .t.
            clear
        else                        && set up for the next one
```

```
                @ 22,0 clear to 23,79
                entering = .t.
                mmfg = blank
                mmod = blank
                mdesc = space(50)
                mser = blank
                mptype = " "
                mpnum = space(10)
                mprice = 0.00
                mreqn = blank
                mloc_code = " "
                mtoday = date( )
                mlname = blank
                mfname = blank
                @ 3,0 clear to 20,79
            endif
        endif  not changed
    enddo finished
    set confirm off
    release all
    close databases
    return
enddo
* EOF modcomp.prg
```

12. MODLOC.PRG

```
********************      Program:  MODLOC.PRG          **************
* Author.............:  TIM SEXTON
* Purpose............:  allows reassigning a component to a new
*                       custodian if the custodian is not on file a
*                       new record is created in owners and or homes,
*                       if the owner is not on file for any
*                       components any longer then they are deleted
* Calls..............:  None
* Input/Output Files.:  COMPS.DBF, OWNERS.DBF, HOMES.DBF



clear
set confirm on
set exact off
select c
use homes index l_fnames     && indexed on last,first names
select b
use owners index names   && indexed on last,first names
select a
use comps index comp_ser,name_loc     && indexed on comp_ser
do while .t.
    blank = space(15)
    mmfg = blank
    mmod = blank
    mdesc = space(50)
    mser = blank
    mptype = " "
    mpnum = space(10)
```

```
    mloc_code = " "
    mtoday = date( )
    mlname = blank
    mfname = blank
    mlocation = space(8)
    mstreet = space(25)
    mcity = blank
    mphone = space(13)
    addhome = .f.
    addowner = .f.
    finished = .f.

    @ 0,6 say ;
"M O D I F Y   C O M P O N E N T   A S S I G N M E N T   S C R E E N"
    @ 1,0 to 1,79 double
    do while .not. finished          && modifying a component

        @ 21,0 to 21,79
        @  2,56 say "date: "
        @  2,61 say mtoday
        searched = .f.
        do while .not. searched
* enter serial # or exit
            entering = .t.
            do while entering              && componenet information
                @  3,0  say "Enter Component:"
                c = 18                     && entries begin at column 18
                @  4,7  say "serial #: "
                @  4,c get mser PICTURE "@N!"
                @ 22,28 say "To EXIT leave serial # blank"
                read
                if mser = blank
                    set confirm off
                    close databases
                    release all
                    return
                else
                    @ 22,0 clear to 23,79
                endif
* check to see if on file
                select comps
                set order to 1
                goto top
                on_file = .f.
                correct = .f.
                c_rec = -1
                if .not. eof()
                    set exact on
                    seek trim(mser)
                    set exact off
                else
                    on_file = .f.
                    correct = .f.
                endif

                if found()
                    c_rec = recno()
                    correct = .t.
                    @ 3,0 clear to 20,79
                    mmod = c_model
                    mmfg = c_mfg
```

```
mdesc = c_desc
mptype = c_ptype
mpnum = c_pnum
mlname = last_name
mfname = first_name
mloc_code = loc_code
if mloc_code = "O"
    select owners
    locate for last_name = trim(mlname) .and.;
      first_name = trim(mfname) .and.;
                                        location <> "HOME"
    mlocation = owners->location
endif
if mloc_code  = "H"
    select homes
    set relation to last_name+first_name into owners
    locate for last_name = trim(mlname) .and.;
      first_name = trim(mfname) .and.;
                        owners->location = "HOME"
    mlocation = owners->location
    mstreet = homes->street
    mcity = homes-> city
    mphone = homes-> phone
    set relation to
endif
@  3,12 say "mfg: "
@  3,c  say mmfg
@  4,10 say "model: "
@  4,c  say mmod
@  5,7  say "serial #: "
@  5,c  say mser
@  6,4  say "description: "
@  6,c  say mdesc
@  8,2  say "property type: "
do case
    case mptype = "P"
        @  8,c say "Plant"
    case mptype = "M"
        @  8,c say "Minor"
    otherwise
        @  8,c say "Other"
endcase
if mptype = "M" .or. mptype = "P"
    @  9,5  say "property #: "
    @  9,c say mpnum
endif
@  11,1  say "designated use: "
do case
    case mloc_code = "O"
        @ 11,c say "Office"
    case mloc_code = "H"
        @ 11,c say "Home"
    case mloc_code = "L"
        @ 11,c say "Lab"
    otherwise
        @ 11,c say "Storage"
endcase
@  13,6  say "Custodian: "
do case
    case mloc_code = "L"
        @ 13,c say mlname
        @ 14,12 say "lab: "
        @ 14,c say mfname
    case mloc_code = "O"
        @ 13,c say  trim(last_name) +", " + first_name
```

```
                @ 14,9 say "office: "
                @ 14,c say mlocation
            case mloc_code  = "H"
                @ 13,c say  trim(last_name) +", " + first_name
                @ 14,9  say "street: "
                @ 14,c  say mstreet
                @ 15,11 say "city: "
                @ 15,c  say mcity
                @ 16,10 say "phone: "
                @ 16,c say mphone
            case mloc_code = "S"
                @ 13,c say "AS DEPT"
        endcase
        set confirm off
        ans = " "
        do while .not. ans  $"yYnN"
            ans = " "
            @ 22,25 say "Is this the correct component?: :"
            @ 23,33 say "[ Yes / No ]"
            @ 22,56 get ans picture "@!A"
            read
        enddo
        set confirm on
        @ 22,0 clear to 23,79
        if upper(ans) = "Y"
            on_file = .t.
            searched = .t.
            entering = .f.
        else
            on_file =.f.
            correct =.t.
            @ 22,10 say;
                  "The component shown is the only one "+;
                                  "on file with this serial #"
            delay = 0
            do while delay < 40
                delay = delay + 1
            enddo
            @ 22,0 clear to 23,79
            @ 22,14 say  "Your component maybe not on "+;
                                    "file, check the serial #"
            delay = 0
            do while delay < 40
                delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
            @ 3,0 clear to 20,79
        endif
    endif found
    if .not. found() .or. .not. correct
        @ 22,28 say "Component not on file !!!"
        delay = 0
        do while delay < 40
            delay = delay + 1
        enddo
        @ 22,0 clear to 22,79
        set confirm off
        ans = " "
        do while .not. ans  $"yYnN"
            ans = " "
            @ 22,25 say "Is this the correct serial #?: :"
            @ 23,33 say "[ Yes / No ]"
            @ 22,55 get ans picture "@!A"
            read
        enddo
        @ 22,0 clear to 23,79
```

```
                    set confirm on
                    if upper(ans) = "Y"
                        correct = .t.
                        on_file = .f.
                        @ 22,14 say  "Your component maybe not on "+;
                                                    "file, check the serial #"
                        delay = 0
                        do while delay < 40
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        correct = .f.
                        @ 22,20 say;
                              "Please re-enter the component serial #"
                        delay = 0
                        do while delay < 40
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                        mser = blank
                    endif
                endif not found
                if .not. on_file .and. correct
                    mser = blank
                endif not on file and done
            enddo entering
        enddo searched
* allow reassigning the component   ALL NEW FROM HERE ON
        addhome = .f.
        addowner = .f.
        change_it =.t.
        changed = .f.
        do while change_it .and.;
                    .not. changed       && componenet information
            @ 11,c clear to  11,79
            @ 12,0 clear to 20,79
            @ 22,26 say "Enter component new assignment"
* enter location code
            new_code = " "
            set confirm off
            @  11,20 say "(Office / Lab / Storage / Home)"
            @  11,c get new_code PICTURE "@!A"
            read
            do while .not. new_code $"OoLlSsHh"
                new_code = " "
                @ 11,c get new_code PICTURE "@!A"
                read
            enddo
            set confirm on
            addhome = .f.
            addowner = .f.
            new_lname = blank
            new_fname = blank
            new_loc = space(8)
            new_street = space(25)
            new_city = blank
            new_phone = space(13)
* enter custodian information, search to see if on file
* use owners for loc_codes O,S,L
* use homes for loc_code H
* last name, first name, and office or home addresses are mandatory
            do case
```

```
* office use
                case new_code = "O"
                    @ 22,0 clear to 22,79
                    @ 22,26 say "Enter component new Custodian"
                    no_lname = .t.
                    do while no_lname
                        @  13,0 clear to 20,79
                        @  13,6  say "Custodian"
                        @  14,6  say "last name: "
                        @  14,c  get new_lname PICTURE  "@!A"
                        read
                        if new_lname = blank
                            @ 22,0 clear to 22,79
                            @ 22,24 say "Custodian's name may not be blank"
                            delay = 0
                            do while delay < 25
                                delay = delay + 1
                            enddo
                            @ 22,0 clear to 22,79
                        else
                            no_lname = .f.
                        endif
                    enddo  no lname
* check to see if on file
                    select owners
                    goto top
                    searched = .f.
                    checked = .f.
                    located = .f.
                    do while .not. searched
                        if eof()
                            searched = .t.
                        else
                            seek trim(new_lname)
                        endif
                        if .not. found()
                            searched = .t.
                            addowner = .t.
                        endif
                        if found() .and. location = "HOME"
                            searched = .t.
                            located = .t.
                            checked = .t.
                        endif
                        if found() .and. location <> "HOME"
                            searched = .t.
                            located = .t.
                            checked = .f.
                        endif
                    enddo
                    do while located
                        do while .not. checked
                            @ 15,5  say "first name: "
                            @ 15,c  say first_name
                            @ 16,9  say "office: "
                            @ 16,c  say location
                            set confirm off
                            ans = " "
                            do while .not. ans  $"yYnN"
                                ans = " "
                                @ 22,0 clear to 22,79
                                @ 22,20 say "Is this the correct"+;
                                        " custodian?: :"
                                @ 23,26 say "[ Yes / No ]"
                                @ 22,51 get ans picture "@!A"
```

```
            read
        enddo
        @ 22,0 clear to 23,79
        set confirm on
        if upper(ans) = "Y"
            located = .f.
            checked = .t.
            new_fname = first_name
            new_loc = location
        else
            checked = .t.
            @ 15,c clear to 16,79
        endif
    enddo checked
    do while located .and. checked .and. .not. eof()
        skip
        if eof()
            located = .f.
            addowner = .t.
        endif
        if last_name = trim(new_lname)
            checked = .f.
        else
            located = .f.
            addowner = .t.
        endif
        if location = "HOME"
            located = .t.
            checked = .t.
        endif
    enddo located and checked
enddo   located
if addowner
    no_fname = .t.
    do while no_fname
        @ 15,5   say "first name: "
        @ 15,c   get  new_fname  picture "@!A"
        read
        if new_fname = space(15)
            @ 22,0 clear to 22,79
              @ 22,20 say "A first name or first"+;
                                    " initial is required"
            delay = 0
            do while delay < 25
                delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
        else
            no_fname = .f.
        endif
    enddo   no fname
    @ 16,9   say "office: "
    @ 16,27  say "(bldg-room)"
    no_office =  .t.
    do while no_office
        @ 16,c  get  new_loc PICTURE "@! (A-999)"
        read
        if new_loc = space(8)
            @ 22,0 clear to 22,79
            @ 22,26 say "Office may not be blank"
            delay = 0
            do while delay < 25
                delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
```

```
                    else
                        no_office = .f.
                    endif
                enddo   no office
            endif add owner

* supply use
        case new_code = "S"
            @ 22,0 clear to 22,79
            @ 13,0 clear to 20,79
            @ 13,6 say "custodian: AS DEPT"
            @ 14,9  say "location: (I-200)"
            new_lname = "AS DEPT        "
            new_fname = "(I-200) "
            new_loc = "STORAGE "
* check to see if on file
            select owners
            goto top
            if eof()
                addowner = .t.
            else
                locate for last_name = trim(new_lname) .and.;
                     first_name = trim(new_fname) .and.;
                                                location = new_loc
            endif
            if .not. found()
                addowner = .t.
            endif

* lab use
        case new_code = "L"
            @ 22,0 clear to 22,79
            @ 22,26 say "Enter component new assignment"
            @ 13,0 clear to 20,79
            @ 13,5  say " A - (I-158) Front          C - (I-224)"
            @ 14,5  say " B - (I-158) Back           D - (I-250)"
            @ 16,3 say "Enter one of the above lab locations : :"
            set confirm off
            lab = " "
            do while .not. lab $ "AaBbCcDd"
                lab = " "
                @ 16,41 get lab picture "@!A"
                read
            enddo
            set confirm on
            new_lname = "AS DEPT        "
            new_loc = "LAB     "
            do case
                case upper(lab) = "A"
                    new_fname = "(I-158)F"
                case upper(lab) = "B"
                    new_fname = "(I-158)B"
                case upper(lab) = "C"
                    new_fname = "(I-224)"
                case upper(lab) = "D"
                    new_fname = "(I-250)"
            endcase
* check to see if on file
            select owners
            goto top
```

```
                    if eof()
                        addowner = .t.
                    else
                        locate for last_name = trim(new_lname) .and.;
                              first_name = trim(new_fname) .and.;
                                                  location = new_loc
                    endif
                    if .not. found()
                        addowner = .t.
                    endif
* home use
                case new_code = "H"
                    @ 22,0 clear to 22,79
                    @ 22,26 say "Enter component new assignment"
                    new_loc = "HOME     "
                    no_lname = .t.
                    do while no_lname
                        @ 13,0 clear to 20,79
                        @ 13,6  say "Custodian"
                        @ 14,6  say "last name: "
                        @ 14,c  get new_lname PICTURE  "@!A"
                        read
                        if new_lname = blank
                            @ 22,0 clear to 22,79
                            @ 22,24 say "Custodian's name may not be blank"
                            delay = 0
                            do while delay < 25
                                delay = delay + 1
                            enddo
                            @ 22,0 clear to 22,79
                        else
                            no_lname = .f.
                        endif
                    enddo no last name
* check to see if on file
                    select homes
                    goto top
                    searched = .f.
                    located = .f.
                    checked = .f.
                    do while .not. searched
                        if eof()
                            searched = .t.
                        else
                            seek trim(new_lname)
                        endif
                        if .not.found()
                            searched = .t.
                            addowner = .t.
                            addhome =.t.
                        endif
                        if found()
                            searched = .t.
                            located = .t.
                            checked = .f.
                        endif
                    enddo not searched
                    do while located
                        do while .not. checked
                            @ 15,5  say "first name: "
                            @ 15,c  say first_name
                            @ 16,9  say "street: "
                            @ 16,c  say street
                            @ 17,11 say "city: "
                            @ 17,c  say city
```

```
            @ 18,10 say "phone: "
            @ 18,c  say phone
            set confirm off
            @ 22,0 clear to 22,79
            ans = " "
            do while .not. ans  $"yYnN"
                ans = " "
                @ 22,20 say "Is this the correct"+;
                           " custodian?: :"
                @ 23,26 say "[ Yes / No ]"
                @ 22,51 get ans picture "@!A"
                read
            enddo
            set confirm on
            @ 22,0 clear to 23,79
            if upper(ans) = "Y"
                located = .f.
                checked = .t.
                new_fname = first_name
                new_street = street
                new_city = city
                new_phone = phone
            else
                checked = .t.
                @ 15,c clear to 20,79
            endif
        enddo checked
        do while located .and. checked .and. .not. eof()
            skip
            if eof()
                located = .f.
                addowner = .t.
                addhome = .t.
            endif
            if last_name = new_lname
                checked = .f.
            else
                located = .f.
                addowner = .t.
                addhome = .t.
            endif
        enddo located and checked
    enddo   located
    if addowner
        no_fname = .t.
        do while no_fname
            @ 15,5   say "first name: "
            @ 15,c   get  new_fname  picture "@!A"
            read
            if new_fname = blank
                @ 22,0 clear to 22,79
                @ 22,20 say "A first name or first"+;
                          " initial is required"
                delay = 0
                do while delay < 25
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
            else
                no_fname = .f.
            endif
        enddo no fname
        no_address = .t.
        do while no_address
            @ 16,9   say "street: "
            @ 16,c   get new_street PICTURE "@!"
```

```
                        @ 17,11  say "city: "
                        @ 17,c   get new_city PICTURE "@!A"
                        @ 18,10  say "phone: "
                        @ 18,c   get new_phone PICTURE "(999)999-9999"
                        read
                        if new_street = space(25) .or.;
                                                new_city = blank
                            @ 22,0 clear to 22,79
                            @ 22,24 say "Street or City may not be blank"
                            delay = 0
                            do while delay < 25
                               delay = delay + 1
                            enddo
                            @ 22,0 clear to 22,79
                        else
                            no_address = .f.
                        endif
                    enddo no address
                endif addowner
            endcase location code

            set confirm off
            @ 22,0 clear to 22,79
            ans = " "
            do while .not. ans  $"aAyYnN"
                ans = " "
                @ 22,25 say "Are the modifications correct?: :"
                @ 23,29 say "[ Yes / No / Abandon]"
                @ 22,56 get ans picture "@!A"
                read
            enddo
            @ 22,0 clear to 23,79
            set confirm on
            if upper(ans) = "A"
                change_it = .f.
            endif
            if upper(ans) = "Y"       && add mvar to dbf
                changed = .t.
            endif
        enddo change
* if changed replace old fields with new fields
        if changed
            set confirm off
            @ 22,0 clear to 22,79
            ans = " "
            do while .not. ans  $"yYnN"
                ans = " "
                @ 22,18 say "Do you wish to file the " +;
                                              "modified component?: :"
                @ 23,29 say "[ Yes / No ]"
                @ 22,62 get ans picture "@!A"
                read
            enddo
            @ 22,0 clear to 23,79
            set confirm on
            if upper(ans) = "N"
                changed = .f.
            endif
            if upper(ans) = "Y"       && add mvar to dbf
                @ 22,20 say "Standby while your entry is placed on file"
* place in comps
                select comps
                goto c_rec
                replace loc_code with  new_code
```

```
                replace last_name with trim(new_lname)
                replace first_name with trim(new_fname)
                replace issue_date with mtoday
* check and see if old owner needs to deleted from owners or homes
                goto top

                del_owner = .f.
                del_home = .f.
                if mloc_code = "O" .or. mloc_code = "H"
                    locate for last_name = trim(mlname)  .and.;
                               first_name = trim(mfname) .and.;
                                                    loc_code = mloc_code
                    if .not. found()
                        del_owner = .t.
                        if mloc_code = "H"
                            del_home = .t.
                        endif
                    endif
                endif
* if the old custodian is not in the comp file
* delete them from owners
                if del_owner
                    select owners
                    goto top
                    locate  for last_name = trim(mlname) .and.;
                                first_name = trim(mfname) .and.;
                                                location = mlocation
                    delete
                endif
* if the old custodian is not in the comp file, delete them from
* homes if the old loc code was HOME
                if del_home
                    select homes
                    locate for last_name = trim(mlname) .and.;
                               first_name = trim(mfname) .and.;
                                                street = trim(mstreet)
                    delete
                endif
* place in owners if new owner not on file
                if addowner
                    select owners
                    append blank
                    replace last_name with trim(new_lname)
                    replace first_name with trim(new_fname)
                    replace location with new_loc
                endif
* place in homes if new owner not on file and loc code = HOME
                if addhome
                    select homes
                    append blank
                    replace last_name with trim(new_lname)
                    replace first_name with trim(new_fname)
                    replace street with trim(new_street)
                    replace city with trim(new_city)
                    replace phone with new_phone
                endif

                changed = .f.
            endif
        endif changed
        if .not. changed
            @ 22,0 clear to 23,79
            @ 22,14 say "Do you have additional component"+;
```

```
                                                    " records to modify?: :"
            @ 23,34 say "[ Yes / No ]"
            set confirm off
            ans = " "
            do while .not. ans $ "yYnN"
                ans = " "
                @ 22,66 get ans
                read
            enddo
            if upper(ans) = "N"
                finished = .t.
                clear
            else                          && set up for the next one
                @ 22,0 clear to 23,79
                entering = .t.
                mmfg = blank
                mmod = blank
                mdesc = space(50)
                mser = blank
                mptype = " "
                mpnum = space(10)
                mloc_code = " "
                mtoday = date( )
                mlname = blank
                mfname = blank
                mlocation = space(8)
                mstreet = space(25)
                mcity = blank
                mphone = space(13)
                addhome = .f.
                addowner = .f.
                @ 3,0 clear to 20,79
            endif
        endif  not changed
    enddo finished
    select owners     && pack files
    pack
    select homes
    pack
    set confirm off
    release all
    close databases
    return
enddo
* EOF modloc.prg
```

13. MODMENU.PRG

```
*********************          Program:  MODMENU.PRG       **************
*Author.............:  TIM SEXTON
*Purpose............:  displays the choices to modify a component
*                      or part record, also allow re-assigning the
*                      custodians
*Calls..............:  MODCOMP.PRG, MODLOC.PRG,MODPART.PRG
*Input/Output Files.:  None

* set up the screen environment
clear
set confirm off
```

```
* begin the menu dialogue
do while .t.
    clear
    @  2,10 to 17,69 double
    @  3,29 say "Modify Property Menu"
    @  4,11 to 4,68 double
    @  6,27 say "     Modify COMPONENT"
    @  7,27 say " 1 - Custodian or Location"
    @  8,27 say " 2 - Record"
    @ 10,27 SAY "     Modify PART"
    @ 11,27 say " 3 - Accountability or Record"
    @ 13,27 say " H - HELP"
    @ 15,27 say " 0 - RETURN to MAIN MENU"
    @ 17,30 say " selection : : "
    choice = " "
    @ 17,42 get choice
    read
* place an asterisk next to a valid choice and erase the other
* rows leaving the heading Part or Component
    line = 5
    if choice $"hH0123"
        do case
            case upper(choice) = "H"
                @ 13,26  say "*"
                choicerow = 13
            case choice = "0"
                @ 15,26  say "*"
                choicerow = 15
            case choice $"12"
                @ 6+val(choice),26  say "*"
                line = 6
                choicerow = 6+val(choice)
            otherwise
                @ 8+val(choice),26 say "*"
                line = 10
                choicerow = 8+val(choice)
        endcase
        firstrow = 6
        rows = 11
        rowcnt = 0
        do while rowcnt < rows
            if (rowcnt+firstrow <> choicerow)
                if  (rowcnt+firstrow <> line)
                    @ firstrow+rowcnt,27 say space(30)
                endif
            endif
            rowcnt = rowcnt + 1
        enddo
    endif
* do a valid choice or loop back thru this program
    do case
        case upper(choice) = "H"
            do mod_help
        case choice = "0"
            clear
            return
        case choice = "1"
            do modloc
        case choice = "2"
            do modcomp
        case choice = "3"
            do modpart
```

```
        otherwise
            @ 20,22 say "****** not a valid selection ******"
            ?
            wait
            loop
    endcase
enddo
* EOF MODMENU.PRG
```

14. MODPART.PRG

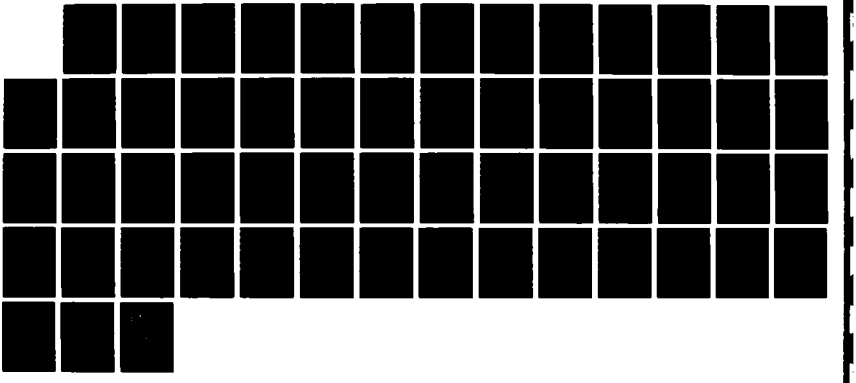
```
*********************      Program:  MODPART.PRG        **************
*Author.............:  TIM SEXTON
*Purpose............:  allows the modification of the part record,
*                      if reassigned a different component the
*                      component is checked to see if on file
*Calls..............:  None
*Input/Output Files.:  COMPS.DBF, PARTS.DBF


clear
set confirm on
set exact on
select a
use comps index comp_ser,name_loc     && indexed on comp_ser
select b
use parts index c_ser     && indexed on comp_ser
          && indexed on last,first names
set relation to comp_ser into comps
do while .t.
    usage = " "
    blank = space(15)
    mmod = blank
    description = space(50)
    mpart_ser = blank
    mptype = " "
    mpnum = space(10)
    component = blank
    mtoday = date( )
    mc_mod = blank
    mc_mfg = blank
    mc_desc = space(50)
    mc_ptype = " "
    mc_pnum = space(10)
    lname = blank
    fname = blank
    known = .f.
    finished = .f.
    change_it = .f.

    do while .not. finished          && modifying  parts
        @ 21,0 to 21,79
        @ 0,20 say " M O D I F Y   P A R T   S C R E E N"
        @ 1,0 to 1,79 double
        entering = .t.
        do while entering             && part information
            find_use = .t.
            do while find_use

                located = .f.
```

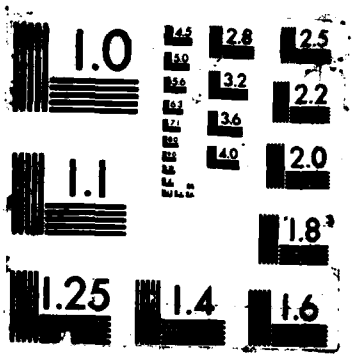
```
* entries begin at column 18
                c = 18
                @ 3,0 clear to 20,79
                @  2,56 say "date: "
                @  2,61 say mtoday
                @ 3,0 say "Enter Part"
* enter use or exit
                @  4,2  say "current usage: "
                @  4,20 say "(Storage / Component / ? not known)"
                set confirm off
                @  4,c get usage picture "@N!"
                @ 22,25 say "To EXIT leave current usage blank"
                read
                do while .not. usage $ " sScC?"
                    usage = " "
                    @  4,c get usage picture "@N!"
                    read
                enddo
                set confirm on
                if usage = " "
                    set confirm off
                    close databases
                    release all
                    return
                else
                    @ 22,0 clear to 23,79
                endif
                if upper(usage) = "?"
                    @  3,0 clear to 20,79
                    known = .f.
                    locating = .f.
                    located = .t.
                    component = blank
                    find_use = .f.
                endif
                if upper(usage) = "S"
                    @  3,0 clear to 20,79
                    known = .t.
                    locating = .f.
                    located = .t.
                    component = blank
                    find_use = .f.
                endif
                if upper(usage) = "C"
                    known = .t.
                    @  4,0 clear to 20,79
                    @ 3,0 say "Enter Component"
                    @  4,8  say "serial#: "
                    locating  = .t.
                endif
                on_file = .t.
                sought = .f.
                do while locating
                    @  4,c  get component picture "@N!"
                    @ 22,0 clear to 23,79
                    @ 22,16 say;
                          "To ABANDON component entry leave serial # blank"
                    read
                    if component = blank
                        locating = .f.
                        usage = " "
                        @ 22,0 clear to 23,79
                    else
```

```
                @ 22,0 clear to 23,79
* check to see if component on file
                select comps
                set order to 1
                goto top
            endif
            if .not. eof()
                seek trim(component)
                sought = .t.
            else
                on_file = .f.
            endif
            if found() .and. sought
                mc_mod = c_model
                mc_mfg = c_mfg
                mc_ptype = c_ptype
                mc_pnum = c_pnum
                lname = last_name
                fname = first_name
                @ 6,0 clear to 10,79
                @ 6,12  say "mfg: "
                @ 6,c   say c_mfg
                @ 7,10  say "model: "
                @ 7,c   say c_model
                @ 8,4   say "description: "
                @ 8,c   say c_desc
                @ 9,2   say "property type: "
                do case
                    case c_ptype = "P"
                        @ 9,c say "Plant"
                    case c_ptype = "M"
                        @ 9,c say "Minor"
                    otherwise
                        @ 9,c say "Other"
                endcase
                if c_ptype = "M" .or. c_ptype = "P"
                    @ 10,5  say "property #: "
                    @ 10,c say c_pnum
                endif
                set confirm off
                    ans = " "
                do while .not. ans  $"yYnN"
                    ans = " "
                    @ 22,0 clear to 23,79
                    @ 22,22 say "Is this the correct component"
                    @ 23,29 say "[ Yes / No ]"
                    @ 22,53 get ans picture "@!A"
                    read
                enddo
                set confirm on
                @ 22,0 clear to 23,79
                if upper(ans) = "Y"
                    locating = .f.
                    located = .t.
                    find_use = .f.
                else
                    @ 22,11 say "The
                    delay =
                    do while delay
                        delay =
                    enddo
```

AD-A187 320 A PROPERTY MANAGEMENT SYSTEM FOR THE ADMINISTRATIVE SCIENCES DEPARTMENT(U) NAVAL POSTGRADUATE SCHOOL MONTEREY CA T M SEXTON SEP 87 2/2

UNCLASSIFIED F/G 15/5 NL




1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0
5.6
6.3
7.1

```
                component= blank
                delay = 0
                do while delay < 40
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
            endif
        endif found
        if (.not. found() .or. .not. on_file) .and. locating
            @ 22,0 clear to 23,79
            @ 22,26 say "Component not on file !!!"
            delay = 0
            do while delay < 40
                delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
            set confirm off
            ans = " "
            do while .not. ans  $"yYnN"
                ans = " "
                @ 22,22 say "Is this the correct serial #?: :"
                @ 23,28 say "[ Yes / No ]"
                @ 22,52 get ans picture "@!A"
                read
            enddo
            @ 22,0 clear to 23,79
            set confirm on
            if upper(ans) = "Y"
                @ 22,18 say "Check the component"+;
                                        " serial #, part usage, or"
                delay = 0
                do while delay < 40
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
                usage = " "
                component= blank
                locating = .f.
            else
                @ 22,20 say "Please re-enter "+;
                                    "the component serial # or"
                delay = 0
                do while delay < 40
                    delay = delay + 1
                enddo
                component = blank
                @ 22,0 clear to 22,79
            endif
        endif not found
    enddo locating
enddo find_use

checking = .t.
do while checking .and. located
    mmod = blank
    mpart_ser = blank
    mptype = " "
    mpnum = space(10)
    change_it = .f.
    @ 3,0 clear to 20,79
    @ 3,0 say "Fill in if known:"
    @ 4,5 say "Part model: "
```

```
@ 4,c get mmod picture "@N!"
read
@ 5,7 say "serial #:  "
@ 5,c get mpart_ser picture "@N!"
read
set confirm off
@ 6,10 say "ptype:    (Plant/Minor/Other)"
@ 6,c get mptype  picture "@N!"
read
do while .not. mptype $ " oOmMpP"
    mptype = " "
    @ 6,c get mptype picture "@N!"
    read
enddo
set confirm on
@ 7,5 say "property #: "
@ 7,c get mpnum picture "@N!"
read
rec = -1
more = .f.
select parts
goto top
done = .f.
aa = .f.
bb = .f.
cc = .f.
dd = .f.
ee = .f.
if mpart_ser <> blank .and. .not. done
    aa = .t.
    done = .t.
    if known
        locate for part_ser = trim(mpart_ser) .and.;
                                    comp_ser = trim(component)
    else
        locate for part_ser = trim(mpart_ser)
    endif
    if found()
        rec = recno()
    endif
endif
if mmod <> blank .and. .not. done
    bb = .t.
    done = .t.
    if known
        locate for p_model = trim(mmod) .and.;
                          comp_ser = trim(component)
    else
        locate for p_model = trim(mmod)
    endif
    if found()
        rec = recno()
        continue
        if found()
            more = .t.
        endif
    endif
endif
if mptype <> " " .and. .not. done
    cc = .t.
    done = .t.
    if known
        locate for p_ptype = mptype .and.;
```

```
                                        comp_ser = trim(component)
    else
        locate for p_ptype = mptype
    endif
    if found()
        rec = recno()
        continue
        if found()
            more = .t.
        endif
    endif
endif
if mpnum <> blank .and. .not. done
    dd = .t.
    done = .t.
    if known
        locate for p_pnum = mpnum .and.;
                                        comp_ser = trim(component)
    else
        locate for p_pnum = trim(mpnum)
    endif
    if found()
        rec = recno()
        continue
        if found()
            more = .t.
        endif
    endif
endif
if .not. done
    ee = .t.
    done = .t.
    if known
        locate for comp_ser = trim(component)
        if found()
            rec = recno()
            continue
            if found()
                more = .t.
            endif
        endif
    else
        if .not. eof()
            rec = recno()
            skip
            if .not. eof()
                more = .t.
            endif
        endif
    endif
endif
do case
    case rec <> -1 .and. .not. more
        goto record rec
        @ 3,0 clear to 20,79
        @ 3,0 say "Only one part on file:"
        @ 4,10  say "model: "
        @ 4,c   say p_model
        @ 5,7   say "serial #: "
        @ 5,c   say part_ser
        @ 6,4   say "description: "
        @ 6,c   say p_desc
        @ 7,2   say "property type: "
        do case
            case p_ptype = "P"
                @ 7,c say "Plant"
```

```
            case p_ptype = "M".
                @ 7,c say "Minor"
            otherwise
                @ 7,c say "Other"
        endcase
        if p_ptype = "M" .or. p_ptype = "P"
            @ 8,5  say "property #: "
            @ 8,c say p_pnum
        endif
        if .not. known
            do case
                case comp_ser = blank
                   @ 10,4 say "current use:  STORAGE"
                case comp_ser <> blank
                   @ 10,4 say "current use: COMPONENT"
                   @ 11,6 say "custodian: "
                   @ 11,c say comps->last_name +;
                                  comps-> first_name
                   @ 13,12  say "mfg: "
                   @ 13,c   say comps-> c_mfg
                   @ 14,10  say "model: "
                   @ 14,c   say comps-> c_model
                   @ 14,7   say "serial #: "
                   @ 14,c   say comps->comp_ser
                   @ 15,4   say "description: "
                   @ 15,c   say comps-> c_desc
            endcase
        endif
        set confirm off
        ans = " "
        do while .not. ans  $"yYnN"
            ans = " "
            @ 22,26 say "Is this the correct part?: :"
            @ 23,32 say "[ Yes / No ]"
            @ 22,52 get ans picture "@!A"
            read
        enddo
        set confirm on
        @ 22,0 clear to 23,79
        if upper(ans) = "N"
            @ 22,16 say "Your PART cannot be found, and"+;
                                    " may not be on file"
            delay = 0
            do while delay < 40
                delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
            component =  blank
            usage = " "
            checking = .f.
        else              && ans = yes
            change_it = .t.
            checking = .f.
            @ 22,0 clear to 23,79
        endif
    endif ans

    case  rec = -1
        @ 22,16 say "Your PART cannot be found, and"+;
                                        " may not be on file"
        delay = 0
        do while delay < 40
            delay = delay + 1
        enddo
        @ 22,0 clear to 22,79
        component =  blank
```

```
    usage = " "
    checking = .f.
case rec <> -1 .and. more
    goto  rec
    still_more = .t.
    correct = .f.
    @ 3,0 clear to 20,79
    @ 3,0 say "More than one part on file:"
    @ 4,0 say " (select the correct part)"
    do while still_more
        @ 5,c clear to 20,79
        @ 5,10  say "model: "
        @ 5,c   say p_model
        @ 6,7   say "serial #: "
        @ 6,c   say part_ser
        @ 7,4   say "description: "
        @ 7,c   say p_desc
        @ 8,2   say "property type: "
        do case
            case p_ptype = "P"
                @ 8,c say "Plant"
            case p_ptype = "M"
                @ 8,c say "Minor"
            otherwise
                @ 8,c say "Other"
                @ 9,0 clear to 9,79
        endcase
        if p_ptype = "M" .or. p_ptype = "P"
            @ 9,5  say "property #: "
            @ 9,c say p_pnum
        endif
        if .not. known
            do case
                case comp_ser = blank
                    @ 11,4 say "current use:  STORAGE"
                case comp_ser <> blank
                    @ 11,4 say "current use:  COMPONENT ->"
                    @ 13,12  say "mfg: "
                    @ 13,c   say comps->c_mfg
                    @ 14,10  say "model: "
                    @ 14,c   say comps->c_model
                    @ 15,7   say "serial #: "
                    @ 15,c   say comps->comp_ser
                    @ 16,4   say "description: "
                    @ 16,c   say comps->c_desc
                    @ 18,6 say "custodian: "
                    @ 18,c say comps->last_name +;
                                    comps->first_name
            endcase
        endif
        set confirm off
        ans = " "
        do while .not. ans  $"aAyYnN"
            ans = " "
            @ 22,26 say "Is this the correct part?: :"
            @ 23,26 say "[ Yes / No / Abandon ]"
            @ 22,52 get ans picture "@!A"
            read
        enddo
        set confirm on
        @ 22,0 clear to 23,79
        if upper(ans) = "A"
            correct = .t.
            still_more = .f.
            component = blank
```

```
    usage = " "
    checking = .f.
endif
if eof()
    still_more = .f.
    checking = .f.
endif
if upper(ans) = "N" .and. .not. eof()
    skip
    do case
        case aa
        if .not. known .and.;
                    part_ser = trim(mpart_ser)
            rec = recno()
            still_more = .t.
        else
            still_more = .f.
        endif
        if known .and.;
          part_ser = trim(mpart_ser) .and.
                     comp_ser = trim(component)
            rec = recno()
        else
            still_more = .f.
        endif

        case bb
        if known .and.;
             p_model = trim(mmod) .and.;
                       comp_ser = trim(component)
            rec = recno()
        else
            still_more = .f.
        endif
        if .not. known .and.;
                            p_model = trim(mmod)
            rec = recno()
            still_more = .t.
        else
            still_more = .f.
        endif
        case cc
        if known .and. p_ptype = mptype .and.;
                       comp_ser = trim(component)
            rec = recno()
        else
            still_more = .f.
        endif
        if .not. known .and. p_ptype = mptype
            rec = recno()
            still_more = .t.
        else
            still_more = .f.
        endif
        case dd
        if known .and.;
             p_pnum = trim(mpnum) .and.;
                      comp_ser = trim(component)
            rec = recno()
        else
            still_more = .f.
        endif
        if .not. known .and.;
                       p_pnum = trim(mpnum)
            rec = recno()
```

```
                                still_more = .t.
                            else
                                still_more = .f.
                            endif
                        case ee
                            if known .and.;
                                    comp_ser = trim(component)
                                rec = recno()
                            else
                                still_more = .f.
                            endif
                            if .not. known .and. .not. eof()
                                rec = recno()
                                still_more = .t.
                            endif
                    endcase
                endif
                if upper(ans) = "Y" .and. .not. eof()
                    change_it = .t.
                    correct = .t.
                    still_more = .f.
                    checking = .f.
                endif
            enddo still_more
            if .not. correct .and. .not. still_more
                @ 3,0 clear to 20,79
                @ 22,16 say "Your PART cannot be found, and"+;
                                        " may not be on file"
                delay = 0
                do while delay < 50
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
                component = blank
                usage = " "
                checking = .f.
            endif
    endcase
enddo checking

if change_it
    @ 22,19 say "Do you wish to modify this PART?: :"
    @ 23,26 say "[ Yes / No ]"
    set confirm off
    ans = " "
    do while .not. ans $ "yYnN"
        ans = " "
        @ 22,52 get ans
        read
    enddo
    set confirm on
    @ 22,0 clear to 23,79
    if upper(ans) = "N"
        change_it = .f.
    else
        entering = .f.
        change_it = .t.
    endif
endif

if located .and. .not. change_it
    @ 22,16 say "Do you have additional parts to modify?: :"
    @ 23,26 say "[ Yes / No ]"
    set confirm off
```

```
                ans = " "
            do while .not. ans $ "yYnN"
                ans = " "
                @ 22,56 get ans
                read
            enddo
            set confirm on
            if upper(ans) = "N"
                set confirm off
                release all
                close databases
                return
            else
                component =  blank
                usage = " "
                @ 22,0 clear to 23,79
            endif
        endif
    enddo entering


    if change_it
* allow editing the part record
        new_mfg = blank
        new_mod = blank
        new_desc = space(50)
        new_ser = blank
        new_ptype = " "
        new_pnum = space(10)
        new_price = 0.00
        new_reqn = blank
        new_use = " "
        new_comp = blank
        changing_it =.t.
        changed = .f.
        ok = .t.   && used if component is found
        do while changing_it .and. .not. changed
            @ 3,0 clear to 20,79
            @ 3,5 say "Enter corrected Part information"
            @ 22,16 say;
                  "Make required changes, press RETURN when correct"
            @  5,10 say "model: "
            @  6,7  say "serial #: "
            @  7,4  say "description: "
            new_mod = p_model
            @ 5,c get new_mod PICTURE "@N!"
            read
* enter mfg serial#
            new_ser = part_ser
            @ 6,c get part_ser PICTURE "@N!"
            read
* enter description
            new_desc = p_desc
            @ 7,c get new_desc PICTURE "@N!"
            read
* determine if stock or component use
            set confirm off
            if comp_ser = blank
                new_use = "S"
            else
                new_use = "C"
            endif
```

```
                @  9,1  say "designated use: "
                @  9,20 say "(Storage / Component)"
                @  9,c get new_use PICTURE "@!A"
                read
                do while .not. new_use $"CcSs"
                    new_use = " "
                    @ 9,c get new_use PICTURE "@!A"
                    read
                enddo
                set confirm on
* enter component serial# for use = C,  search to see if on file
* comp_ser = blank for storage use
* use comps for use = C component ser # mandatory
* storage use
                if upper(new_use) = "S"
                    new_comp = blank
                endif
* component use
                if new_use = "C"
                    @ 10,0 clear to 13,79
                    @ 11,6  say "Component"
                    @ 12,6  say "serial #: "
                    searched = .f.
                    do while .not. searched
                        no_ser = .t.
                        do while no_ser
                            new_comp = comp_ser
                            @ 12,c  get new_comp PICTURE  "@!N"
                            read
                            if new_comp = blank
                                @ 22,0 clear to 22,79
                                @ 22,20 say "Component's"+;
                                            " serial # may not be blank"
                                delay = 0
                                do while delay < 25
                                   delay = delay + 1
                                enddo
                                @ 22,0 clear to 22,79
                            else
                                no_ser = .f.
                            endif
                        enddo  no component serial#
* check to see if on file
                        select comps
                        goto top
                        set order to 1
                        goto top
                        on_file = .f.
                        done = .f.
                        if eof()
                            on_file = .f.
                        else
                            seek trim(new_comp)
                        endif
                        if found()
                            searched = .t.
                            on_file = .t.
                            done = .t.
                        endif
                        if .not. found() .or. .not. on_file
                            @ 22,0 clear to 22,79
                            @ 22,22 say "Component not on file !!!"
                            delay = 0
                            do while delay < 25
```

```
                        delay = delay + 1
                    enddo
                    @ 22,0 clear to 22,79
                    set confirm off
                    ans = " "
                    do while .not. ans  $"yYnN"
                        ans = " "
                        @ 22,20 say "Is this the correct"+;
                                                    " serial #?: :"
                        @ 23,26 say "[ Yes / No ]"
                        @ 22,50 get ans picture "@!A"
                        read
                    enddo
                    @ 22,0 clear to 23,79
                    set confirm on
                    if upper(ans) = "Y"
                        searched = .t.
                        ok = .f.
                        changing_it = .f.
                        done = .t.
                        @ 22,15 say "This component must "+;
                                                "be entered first"
                        delay = 0
                        do while delay < 25
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    else
                        @ 22,15 say "Please re-enter the component"+;
                                                " serial#"
                        delay = 0
                        do while delay < 25
                            delay = delay + 1
                        enddo
                        @ 22,0 clear to 22,79
                    endif
                endif not found
            enddo searched
        endif use = Component
        if ok
* enter property type (mandatory)
            select parts
            goto rec
            set confirm off
            @ 14,2  say "property type: "
            @ 14,20 say "(Plant / Minor / Other)"
            new_ptype = p_ptype
            @ 14,c get new_ptype PICTURE "@!A"
            read
            do while .not. new_ptype $ "mMoOpP"
                new_ptype = p_ptype
                @ 14,c get new_ptype PICTURE "@!A"
                read
            enddo
            set confirm on
* no property# for other type property
            if upper(new_ptype) = "O"       &&  ensure it is blank
                new_pnum = space(10)
            endif
* enter property# (mandatory for plant and minor property types)
            if upper(new_ptype) = "M" .or. upper(new_ptype) = "P"
                @ 15,5 say "property #: "
                no_num = .t.
                do while no_num
```

```
                        new_pnum = p_pnum
                        @ 15,c get new_pnum PICTURE "@N!"
                        read
                        if new_pnum = space(10)
                            @ 22,12 say "Minor and Plant property "+;
                                        "require a property number "
                            delay = 0
                            do while delay < 25
                                delay = delay + 1
                            enddo
                            @ 22,0 clear to 22,79
                        else
                            no_num = .f.
                        endif
                    enddo
                endif
* enter price and requisition#
                @  17,10 say "price: $"
                @  18,9  say "reqn #: "
                new_price = p_price
                new_reqn = p_reqn
                @  17,c get new_price PICTURE "@R 9,999.99"
                @  18,c get new_reqn PICTURE "@!R 9999-NNNN/NNNNN"
                read
                set confirm off
                @ 22,0 clear to 23,79
                ans = " "
                do while .not. ans  $"aAyYnN"
                    ans = " "
                    @ 22,25 say "Are the modifications correct?: :"
                    @ 23,29 say "[ Yes / No / Abandon]"
                    @ 22,56 get ans picture "@!A"
                    read
                enddo
                @ 22,0 clear to 23,79
                set confirm on
                if upper(ans) = "A"
                    changing_it = .f.
                endif
                if upper(ans) = "Y"      && add mvar to dbf
                    changed = .t.
                endif
            endif ok
        enddo changed or changeing it
    endif change_it

* if original record was changed replace the old fields
* with the new ones
    if changed
        set confirm off
        @ 22,0 clear to 22,79
        ans = " "
        do while .not. ans  $"yYnN"
            ans = " "
            @ 22,22 say "Do you wish to file the modified part?: :"
            @ 23,29 say "[ Yes / No ]"
            @ 22,61 get ans picture "@!A"
            read
        enddo
        @ 22,0 clear to 23,79
        set confirm on
        if upper(ans) = "N"
            changed = .f.
        endif
```

```
            if upper(ans) = "Y"      && add mvar to dbf
               @ 22,20 say "Standby while your entry is placed on file"
* place in parts
               select parts
               goto rec
               replace p_model with trim(new_mod)
               replace p_desc with trim(new_desc)
               replace part_ser with trim(new_ser)
               replace comp_ser with trim(new_comp)
               replace p_ptype with new_ptype
               replace p_pnum with trim(new_pnum)
               replace p_price with new_price
               replace p_reqn with trim(new_reqn)
               changed = .f.
            endif
         endif changed
         if .not. changed
            @ 22,0 clear to 23,79
            @ 22,18 say "Do you have additional part"+;
                                                  " records to modify?: :"
            @ 23,34 say "[ Yes / No ]"
            set confirm off
            ans = " "
            do while .not. ans $ "yYnN"
               ans = " "
               @ 22,65 get ans
               read
            enddo
            if upper(ans) = "N"
               finished = .t.
               clear
            else                        && set up for the next one
               @ 22,0 clear to 23,79
               entering = .t.
               usage = " "
               mmod = blank
               description = space(50)
               mpart_ser = blank
               mptype = " "
               mpnum = blank
               component = blank
               mc_mod = blank
               mc_mfg = blank
               mc_desc = space(50)
               mc_ptype = " "
               mc_pnum = blank
               lname = blank
               fname = blank
               known = .f.
               finished = .f.
               change_it = .f.
               ok = .t.
               @ 3,0 clear to 20,79
            endif
         endif  not changed
      enddo finished
      set confirm off
      release all
      close databases
      return
enddo
* EOF modpart.prg
```

15. MOD_HELP.PRG

```
 **********************   Program:  MOD_HLP.PRG      ******************
*
*Author.............:  TIM SEXTON
*Purpose............:  describes the options available to the
*                      user
*Calls..............:  None
*
*Input/Output Files.:  None

* begin the text dialogue
clear
@ 0,14 say "M O D I F Y   P R O P E R T Y   H E L P   S C R E E N"
@ 1,0 to 1,79 double
text


                * Modifications are made to components and parts
                  changing accountability or to the record itself
                * Imperative the correct serial number be inputted
                  in all cases
                * Modifications are only accomplished to existing data
endtext
@ 21,0 to 21,79
Wait " -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
text
                                        "CAUTIONS"
                * Extremely important that all information is
                  entered correctly
                * Mistakes will be made so utilize the "NO" or
                  "ABANDON" commands before resuming
                * Recommend using DELETION and ARROW keys for
                  modifying data entered and ensure not to deviate
                  outside designated fields

endtext
@ 21,0 to 21,79
Wait " -> press any key for more help or ESC to exit"
clear
@ 1,0 to 1,79 double
text


                                        "WARNINGS"
                * Use of BACKSPACE key can cause PREMATURE exiting
                  of an entry field, loop back for re-entrance of
                  data
                * Serial Numbers must be accurate and precise
endtext
@ 21,0 to 21,79
Wait " -> press any key to exit"
*EOF MOD_HELP.PRG
```

16. OWNERS.PRG

```
**********************   Program:  OWNERS.PRG   **********************
*
*Author.............:  TIM SEXTON
*Purpose............:  displays the entire file of custodians, and
*                      locations that they have property
*Calls..............:  None
*
*Input/Output Files.:  None


clear
set confirm on
set headings off
select 1
use homes index l_fnames
select 2
use owners index names
set relation to last_name + first_name into homes

end_list = .f.
do while .not. end_list
    lname = space(15)
    fname = space(15)
    line = 5
    c1 = 0
    c2 = 31
    c3 = 43
    @ 0,20 say  "C U S T O D I A N   L I S T I N G S "
    @ 1,0 to 1,79 double
    @ 21,0 to 21,79
    @ 3,c1+3 say "Custodian"
    @ 3,c2 say "Office"
    @ 3,c3+3 say "Home Address"
    do while .not. eof()
        do case
            case last_name = "AS DEPT"
                skip
            otherwise
                @ line,c1 say trim(last_name) + ", " + first_name
                if location <> "HOME"
                    @ line,c2 say location
                endif
                if location = "HOME"
                    @ line,c3 say trim(homes->street) +;
                                                  ", " + homes->city
                endif
                line = line + 2
                skip
                do case
                    case lname = last_name .and. fname = first_name;
                    .and. location = "HOME"
                        if line = 5
                            @ line,c3 say trim(homes->street) +;
                                                  ", " + homes->city
                        else
                            @ line - 2,c3 say trim(homes->street) +;
                                                  ", " + homes->city
                        endif
                        skip
```

```
                endcase
                lname = last_name
                fname = first_name
                if line > 20
                    ?
                    ?
                    wait;
                      space(16)+"Press any key to continue, or ESC to exit"
                    @ 4,0 clear to 20,79
                    @ 22,0 clear to 24,79
                    line = 5
                endif
            endcase
        enddo
        if eof()
            @ 22,25 say " That is everyone on file "
            delay = 0
            do while delay < 25
                delay = delay + 1
            enddo
            @ 22,25 clear to 22,79
            @ 22,15 say;
                      "Press any key to return to Search and Listing Menu"
            end_list = .t.
            wait " "
        endif
        close databases
        release all
        return
enddo
* EOF owners.prg
```

17. PMANF.PRG

```
*********************   Program:  PMANF.PRG      *********************
*
*Author.............:  TIM SEXTON
*Purpose............:  displays the components by mfg searches
*                      on c_mfg
*Calls..............:  None
*
*Input/Output Files.:  None

clear
set confirm on
select 1
use owners index names
select 2
use comps index name_loc
set relation to last_name + first_name into owners
end_list = .f.
do while .not. end_list
    blank = space(15)
    mmfg = blank
    @ 0,14 say;
            "C O M P O N E N T   M F G   S E A R C H   S C R E E N"
    @ 1,0 to 1,79 double
    @ 21,0 to 21,79
    @ 22,25 say "To EXIT leave mfg name blank"
    @ 4,6 say "Enter Mfg"
    @ 6,6  say "      name: " get mmfg PICTURE  "@!N"
```

```
read
if mmfg = blank
    clear
    release all
    close databases
    return
endif
@ 22,0 clear to 22,79
goto top
set exact off
locate for c_mfg = ltrim(mmfg)

line = 6
c1 = 10
c2 = 28
c3 = 55
if found()
    @ 2,0 clear to 20,79
    @ 2,1 say "MFG:"
    @ 2,6 say mmfg
    @ 3,c1 say "Model"
    @ 4,c1 to 4,c1+5
    @ 3,c2 say "Custodian"
    @ 4,c2 to 4,c2+9
    @ 3,c3 say "Location"
    @ 4,c3 to 4,c3+8
    do while .not. eof()
        @ line,c1 say c_model
        do case
            case last_name = "AS DEPT"
                @ line,c2 say last_name
                @ line,c3 say trim(owners->location) + ", " +;
                              first_name
            otherwise
                @ line,c2 say trim(last_name) + ", " + first_name
                if loc_code = "H"
                    @ line,c3 say "HOME"
                else
                    @ line,c3 say owners->location
                endif
        endcase
        @ line+1,15 say "-> " + c_desc
        line = line + 3
        if line > 20
            @ 22,20 say "Press any key to continue, or ESC to exit"
            wait " "
            @ 6,0 clear to 20,79
            @ 22,0 clear to 24,79
            line = 6
        endif
        continue
        if eof()
            @ 22,27 say "Nothing further is on file"
            delay = 0
            do while delay < 50
                delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
        endif
    enddo
else
    @ 22,0 clear to 22,79
    @ 22,27 say "Nothing is on file for this mfg"
    delay = 0
```

```
        do while delay < 50
            delay = delay + 1
        enddo
        @ 22,0 clear to 22,79
    endif
    @ 22,15 say "Press any key to return to Search and Listing Menu"
    end_list = .t.
    wait " "
    close databases
    release all
    return
enddo
* EOF pmanf.prg
```

18. PMOD.PRG

```
**********************   Program:  PMOD.PRG     **********************
*
*Author.............:  TIM SEXTON
*Purpose............:  displays the components by model  searches
*                      on c_model
*Calls..............:  None
*
*Input/Output Files..:  None

clear
set confirm on
select 1
use owners index names
select 2
use comps index name_loc
set relation to last_name + first_name into owners
end_list = .f.
do while .not. end_list
    blank = space(15)
    mmod = blank
    @ 0,12 say;
        "C O M P O N E N T   M O D E L   S E A R C H   S C R E E N"
    @ 1,0 to 1,79 double
    @ 21,0 to 21,79
    @ 22,22 say "To EXIT leave model name blank"
    @ 4,6 say "Enter Model"
    @ 6,6  say "      name: " get mmod PICTURE  "@!N"
    read
    if mmod = blank
        clear
        release all
        close databases
        return
    endif
    @ 22,0 clear to 22,79
    goto top
    set exact off
    locate for c_model = ltrim(mmod)
    line = 6
    c1 = 10
    c2 = 28
    c3 = 55
    if found()
        @ 2,0 clear to 20,79
```

```
        @ 2,1 say "MODEL:"
        @ 2,8 say mmod
        @ 3,c1 say "Mfg"
        @ 4,c1 to 4,c1+3
        @ 3,c2 say "Custodian"
        @ 4,c2 to 4,c2+9
        @ 3,c3 say "Location"
        @ 4,c3 to 4,c3+8
        do while .not. eof()
            @ line,c1 say c_mfg
            do case
                case last_name = "AS DEPT"
                    @ line,c2 say last_name
                    @ line,c3 say trim(owners->location) + ", " +;
                                  first_name
                otherwise
                    @ line,c2 say trim(last_name) + ", " + first_name
                    if loc_code = "H"
                        @ line,c3 say "HOME"
                    else
                        @ line,c3 say owners->location
                    endif
            endcase
            @ line+1,15 say "-> " + c_desc
            line = line + 3
            if line > 20
                @ 22,20 say "Press any key to continue, or ESC to exit"
                wait " "
                @ 6,0 clear to 20,79
                @ 22,0 clear to 24,79
                line = 6
            endif
            continue
            if eof()
                @ 22,27 say "Nothing further is on file"
                delay = 0
                do while delay < 50
                    delay = delay + 1
                enddo
                @ 22,0 clear to 22,79
            endif
        enddo
    else
        @ 22,0 clear to 22,79
        @ 22,25 say "Nothing is on file for this model"
        delay = 0
        do while delay < 50
            delay = delay + 1
        enddo
        @ 22,0 clear to 22,79
    endif
    @ 22,15 say "Press any key to return to Search and Listing Menu"
    end_list = .t.
    wait " "
    close databases
    release all
    return
enddo
* EOF pmod.prg
```

19. PROPERTY.PRG

```
**********************       Program:  PROPERTY.PRG    ***************
*Author.............:  TIM SEXTON
*Purpose............:  Main Menu displays the various tasks that are
*                      available for the user.
*Calls..............:  ADDMENU.PRG, MODMENU.PRG, DELMENU.PRG,
*                      REPORTS.PRG, ADHOC.PRG
*Input/Output Files.:  None


**********    set up the working environment  **********
* restricts the control and interfaces strictly to this
* application, and not with dBase III plus
set color to gr+/b, r/w, b, b
close databases
clear
clear all
set talk off
set echo off
set scoreboard off
set bell off
set status off
set safety off
set deleted on
on escape return
* display the opening screen
text

                          Property Management System
      The Property Management System is an application program to
      assist the Admin Science Dept in maintaining accountability
      for departmental property.
endtext
?
?
?
?
wait

* Check the users password for their access rights, exit the
* application program if no proper password
clear
set intensity off
set confirm on
password = space(10)
access = space(10)
@ 8,20 to 11,60 double
no_code = .t.
do while no_code
    @ 9,21 clear to 10,59
    @ 9,23 say "ENTER YOUR PASSWORD: "
    @ 10,23 say "    (or press return to quit)"
* hide the password typed by changing inputs to the same color as
* the background, set it back after input entered
    set color to b/b, b/b, b, b
    @ 9,44 get password
    read
    set color to gr+/b, r/w, b, b
    do case
        case password = space(10)
            set color to w/n, n/w, n, n
```

```
            quit
            release all
            clear
        case lower(password) = "limited"
            access = "read_only"
            no_code = .f.
        case lower(password) = "unlimited"
            access = "read_write"
            no_code = .f.
        otherwise
            @ 9,21 clear to 10,59
            @ 9,23 say "IMPROPER PASSWORD, PLEASE RE-ENTER"
            delay = 0
            do while delay < 25
                delay = delay + 1
            enddo
            password = space(10)
    endcase
enddo
clear
set intensity on

* the program begins, the start of the dialogue unit, similar
* menu screens are used for options 1 - 5
do while .t.
    set confirm off
    clear
    @  2,10 to 17,69 double
    @  3,25 say "Property Management Main Menu"
    @  4,11 to 4,68 double
    @  6,27 say " 1 - LISTS or SEARCHES"
    @  7,27 say " 2 - PRINT REPORTS"
    @  9,27 say " 3 - ENTER new property"
    @ 10,27 say " 4 - DELETE property"
    @ 11,27 say " 5 - MODIFY property"
    @ 13,27 say " H - HELP"
    @ 15,27 say " 0 - Exit to MS DOS"
    @ 17,30 say " selection : : "
    choice = " "
    @ 17,42 get choice
    read
* display an asterisk next to the choice, choice row used for
* erasing other rows
    if choice $"hH012345"
        do case
            case upper(choice) = "H"
                @ 13,26  say "*"
                choicerow = 13
            case choice = "0"
                @ 15,26  say "*"
                choicerow = 15
            case choice $"12"
                @ 5+val(choice),26  say "*"
                choicerow = 5+val(choice)
            otherwise
                @ 6+val(choice),26 say "*"
                choicerow = 6+val(choice)
        endcase
        firstrow = 6
        rows = 10
        rowcnt = 0
        do while rowcnt < rows
```

```
            if rowcnt+firstrow <> choicerow
               @ firstrow+rowcnt,27 say space(25)
            endif
            rowcnt = rowcnt + 1
         enddo
      endif
* do choice, access must match the password a user entered
* this is the control section of this program
      do case
         case choice = "0"
            set color to w/n, n/w, n, n
            quit
         case choice = "1"
            if  lower(access) = "read_only" .or.;
                              lower(access) = "read_write"
               do adhoc
            else
               @ 19,10 say;
                "****** you do not have proper access"+;
                                          " for this selection ******"
               ?
               wait
               loop
            endif
         case choice = "2"
            if  lower(access) = "read_only" .or.;
                              lower(access) = "read_write"
               do reports
            else
               @ 19,10 say;
                "****** you do not have proper access"+;
                                          " for this selection ******"
               ?
               wait
               loop
            endif
         case choice = "3"
            if  lower(access) = "read_write"
               do addmenu
            else
               @ 19,10 say;
                "****** you do not have proper access"+;
                                          " for this selection ******"
               ?
               wait
               loop
            endif
         case choice = "4"
            if  lower(access) = "read_write"
               do delmenu
            else
               @ 19,10 say;
                "****** you do not have proper access"+;
                                          " for this selection ******"
               ?
               wait
               loop
            endif
         case choice = "5"
            if  lower(access) = "read_write"
               do modmenu
            else
               @ 19,10 say;
                "****** you do not have proper access"+;
                                          " for this selection ******"
               ?
               wait
```

```
            loop
        endif
    case upper(choice) = "H"
        do main_hlp
    otherwise
        @ 19,22 say "****** not a valid selection ******"
        ?
        wait
        loop
endcase
enddo
* EOF property.prg
```

20. QRY_HELP.PRG

```
*********************   Program:  QRY_HELP.PRG     ******************
*
*Author.............:  TIM SEXTON
*Purpose............:  describes the options available to the
*                      user
*Calls..............:  None
*
*Input/Output Files.:  None

* begin the text dialogue
clear
@ 1,0 to 1,79 double
@ 0,15 say "L I S T   A N D   S E A R C H   H E L P   M E N U"
text


                * Searches are designed to provide the user with
                  the following lists:
                       1. Custodians on file
                       2. Locations of Components of interest
                       3. Custodians of various Components
                       4. A List of a Manufacturer's Components
                       5. A List by Model of Components
                * Component Lists will provide the Component
                  location
                * To search on a custodian, ensure the name is
                  entered as it is kept on file.  Option # 3 will
                  provide a list of all custodians.
endtext
@ 21,0  to 21,79
Wait "    -> press any key to exit"
*EOF QRY_HELP.PRG
```

21. QTR_RPT.PRG

```
*********************     Program:  QTR_RPT.PRG        **************
*Author.............:  TIM SEXTON
*Purpose............:  prints three reports
*                      1. components  grouped by custodian and
*                      location
*                      2. parts grouped by custodian and component
*                      3. parts that are not assigned to components
*                      (stock) involves creating temporary files that
*                      are erased after the reports are printed
*Calls..............:  TEMP.FRM, TEMP3.FRM, STOCKPART.FRM,COMPS.DBF,
```

```
*                       PARTS.DBF,OWNERS.DBF
*Input/Output Files.:  none


    * This program will join the owners and components to allow
    * printing the component and property reports
set confirm off
set exact on
clear

select 1
use parts
select 2
use owners
select 3
use comps
do while .t.
    @ 0,18 say  " Q U A R T E R L Y   R E P O R T   S C R E E N"
    @ 1,0 to 1,79 double
    @ 21,0 to 21,79
    @ 8,16 say "***********   SET UP THE PRINTER   ***********"
    @ 22,6 say "Standby while the files are joined for preparing"+;
                                                    " the property reports"

******* temp is used to join campus owner with component *******
    select comps
    join with owners to temp     for loc_code <> "H" .and. owners->;
       location <> "HOME" .and. last_name = owners->last_name .and.;
       first_name = owners->first_name

******* temp2 is used to join home owner with component ********
    join with owners to temp2     for loc_code = "H" .and. owners->;
       location = "HOME" .and.  last_name = owners->last_name .and.;
       first_name = owners->first_name

*************** temp2 is then appended to temp *****************
************** temp is used for component report ***************
    select 4
    use temp
    append from temp2
    index on  last_name + first_name + location + c_mfg +;
                                                    c_model to temp

************** temp3 is used for part report ****************** *
    join with parts to temp3 for comp_ser = parts->comp_ser
    select 5
    use temp3
    index on last_name + first_name + location + c_mfg + c_model +;
       comp_ser to temp3

close databases

* check if printer is set up or allow abandon current operation
    done = .f.
    ready = .f.
    do while .not. ready
       @ 8,0 clear to 8,79
```

```
        @ 22,0 clear to 23,79
        @ 22,22 say "Is the printer ready for printing?: :"
        @ 23,22 say "      [ Yes / No / Abandon ]"
        ans = " "
        do while .not. ans $ "yYnNaA"
            ans = " "
            @ 22,57  get ans picture "@!A"
            read
        enddo
        @ 22,0 clear to 23,79
* if not ready wait and loop
        if upper(ans) = "N"
            @ 8,18 say "Press any key when ready to ready to continue"
            ?
            wait " "
            @ 8,0  clear to 8,79
        endif
        if upper(ans) = "A"
            ready = .t.
            done = .t.
        endif
        if upper(ans) = "Y"
            ready = .t.
        endif
    enddo not ready
    if .not. done
        clear
        select 1
        use temp index temp
        ********** do the component report
        report form temp to print
        select 2
        use temp3 index temp3
        ********** do the part property report
        report form temp3 to print
        select 3
        use parts
        ********** do the stock part list
        report form stokpart to print for comp_ser = space(10)
       done = .t.
  endif not done
  if done
      erase temp.dbf
      erase temp2.dbf
      erase temp3.dbf
      erase temp.ndx
      erase temp3.ndx
      clear
      release all
      close databases
      return
    endif done
enddo
*eof qtr_rpt.prg
```

22. REPORTS.PRG

```
**********************     Program: REPORTS.PRG     ********************
*Author.............:  TIM SEXTON
*Purpose............:  Menu displays the choices: print a quarterly
*                      property report or a summary report by
*                      property type and number
*Calls..............:  QTR_RPT.PRG, SUM_RPT.PRG
*Input/Output Files.:  NONE

* set screen environment
clear
set confirm off
* dispalay the dialogue menu
do while .t.
    clear
    @  2,10 to 13,69 double
    @  3,30 say "Property Reports Menu"
    @  4,11 to 4,68 double
    @  6,27 say " 1 - QUARTERLY report"
    @  7,27 say " 2 - PROPERTY SUMMARY report"
    @  9,27 say " H - HELP"
    @ 11,27 say " 0 - RETURN to main menu"
    @ 13,30 say " selection : : "
    choice = " "
    @ 13,42 get choice
    read
* place an asterisks next to a valid choice, and erase the other
* rows
    if choice $ "hH012"
        do case
            case upper(choice) = "H"
                @ 9,26  say "*"
                choicerow = 9
            case choice = "0"
                @ 11,26  say "*"
                choicerow = 11
            otherwise
                @ 5+val(choice),26  say "*"
                choicerow = 5+val(choice)
        endcase
        firstrow = 6
        rows = 7
        rowcnt = 0
        do while rowcnt < rows
            if rowcnt+firstrow <> choicerow
                @ firstrow+rowcnt,27 say space(30)
            endif
            rowcnt = rowcnt + 1
        enddo
    endif
* do choice if valid, or loop back thru this program
    do case
        case choice = "0"
            return
        case choice = "1"
            do qtr_rpt
        case choice = "2"
            do sum_rpt
        case upper(choice) = "H"
            do rpt_help
        otherwise
```

```
            @ 17,22 say "****** not a valid selection ******"
            ?
            wait
            loop
    endcase
enddo
*EOF reports.prg
```

23. RPT_HELP.PRG

```
*********************   Program:  RPT_HELP.PRG     ******************
*
*Author.............:  TIM SEXTON
*Purpose............:  describes the options available to the
*                      user
*Calls..............:  None
*
*Input/Output Files.:  None

* begin the text dialogue
clear
@ 1,0 to 1,79 double
@ 0,13 say "P R O P E R T Y   R E P O R T S   H E L P   S C R E E N"
text


                * Ensure Printer is ON and READY
                * Reports are pre-formatted
                * Provides two types of Reports, namely:
                     ** Quarterly---Grouped by Custodian/Owner
                     ** Summary-----Grouped by Property Type
                                      and Property Number

endtext
@ 21,0 to 21,79
Wait "  -> press any key to exit"
*EOF RPT_HELP.PRG
```

24. SLOCATIO.PRG

```
*********************   Program:  SLOCATIO.PRG   ********************
*
*Author.............:  TIM SEXTON
*Purpose............:  displays  components and the location
*                      of the component , searches on loc_code
*Calls..............:  None
*Input/Output Files.:  None



set headings off
set confirm off

select a
use comps index name_loc
finished = .f.
do while .not. finished
    clear
```

```
ans = " "
@ 0,11 say;
  "C O M P O N E N T   L O C A T I O N   L I S T   S C R E E N"
@ 1,0 to 1,79 double
@ 21,0 TO 21,79
@ 22,26 say "Leave choice blank to EXIT"
@  4,27 say  "   LOCATIONS"
@  7,27 say  " 1.  HOME or OFFICE"
@  9,27 say  " 2.  STORAGE"
@ 11,27 say  " 3.  LAB "
no_ans = .t.
do while no_ans
    @ 16,20 SAY "PLEASE ENTER YOUR CHOICE:" get ans
    read
    if ans $ " 123"
       no_ans = .f.
    else
       ans = " "
    endif
enddo
if ans <> " "
    clear
    do case
       case ans = "1"
          code = "P"
          @ 0,28 say  "PERSONNEL COMPONENTS"
       case ans = "2"
          code = "S"
          @ 0,28 say "STORAGE COMPONENTS"
       case ans = "3"
          code = "L"
          @ 0,28 say "LAB COMPONENTS"
    endcase
    goto top
    @ 1,0 to 1,79
    @ 21,0 to 21,79
    if code = "P"
       do while .not. eof()
          if last_name = "AS DEPT"
             skip
          else
             line = 7
             lname = last_name
             fname = first_name
             @ 3,4 say "Custodian: "
             @ 3,15 say trim(last_name) + " ," + first_name
             @ 5,2 say  "Mfg/Model"
             @ 6,2 to 6,10
             @ 5,32 say "Serial #"
             @ 6,32 to 6,39
             @ 5,50 say "Ptype & number"
             @ 6,50 to 6,63
             @ 5,72 say "Location"
             @ 6,72 to 6,79
             do while last_name = lname .and. first_name = fname
                if loc_code = "O" .or. loc_code = "H"
                   @ line,0 say trim(c_mfg)+" / " + c_model
                   @ line,32 say comp_ser
                   @ line,50 say c_ptype + " - " + c_pnum
                   if loc_code = "O"
                      @ line,72 say "Office"
                   endif
                   if loc_code = "H"
                      @ line,72 say "Home"
```

```
                    endif
                    line = line + 2
                    skip
                    if line > 20 .and. (last_name = lname;
                                        .and. first_name = fname)
                        @ 22,0 clear to 22,79
                        @ 22,4 say "Additional property"+;
                            " on file for this Custodian, press"+;
                            " any key to continue"
                        wait" "
                        @ 7,0 clear to 20,79
                        @ 22,0 clear to 22,79
                        line = 7
                    endif
                else
                    skip
                endif
                if last_name <> lname .and. first_name <> fname
                    @ 22,0 clear to 22,79
                    @ 22,4 say "That is all"+;
                    " that is on file, press any"+;
                        " key to continue, or ESC to exit"
                    wait" "
                    line = 7
                    @ 3,15 clear to 3,79
                    @ 7,0 clear to 20,79
                    @ 22,0 clear to 22,79
                endif
            enddo
        endif
    enddo
endif
if code = "S"
    lname = "AS DEPT"
    seek lname
        if found()
            line = 7
            @ 3,4 say "Custodian: "
            @ 3,15 say "AS DEPT"
            @ 5,2 say  "Mfg/Model"
            @ 6,2 to 6,10
            @ 5,32 say "Serial #"
            @ 6,32 to 6,39
            @ 5,50 say "Ptype & number"
            @ 6,50 to 6,63
            @ 5,72 say "Location"
            @ 6,72 to 6,79
            do while last_name = "AS DEPT"
                if loc_code = "S"
                    @ line,0 say trim(c_mfg)+" / " + c_model
                    @ line,32 say comp_ser
                    @ line,50 say c_ptype + " - " + c_pnum
                    @ line,72 say "(I-274)"
                    line = line + 2
                    skip
                    if line > 20 .and. (last_name = lname;
                                        .and. loc_code = "S")
                        @ 22,0 clear to 22,79
                        @ 22,9 say "Additional storage property"+;
                                " on file, press any key to continue"
                        wait" "
                        @ 7,0 clear to 20,79
                        @ 22,0 clear to 22,79
                        line = 7
                    endif
```

```
                else
                    skip
                endif
                if last_name <> lname
                    @ 22,0 clear to 22,79
                    @ 22,4 say "That is all"+;
                    " that is on file, press any"+;
                        " key to continue, or ESC to exit"
                    wait" "
                endif
            enddo
        else
            @ 22,0 clear to 22,79
            @ 22,12 say "No storage components on file,"+;
                        " press any key to continue"
            wait" "
            clear
        endif
    enddo
endif
if code = "L"
    lname = "AS DEPT"
    seek lname
        if found()
            line = 7
            @ 3,4 say "Custodian: "
            @ 3,15 say "AS DEPT"
            @ 5,2 say  "Mfg/Model"
            @ 6,2 to 6,10
            @ 5,32 say "Serial #"
            @ 6,32 to 6,39
            @ 5,50 say "Ptype & number"
            @ 6,50 to 6,63
            @ 5,72 say "Location"
            @ 6,72 to 6,79
            do while last_name = "AS DEPT"
                if loc_code = "L"
                    @ line,0 say trim(c_mfg)+" / " + c_model
                    @ line,32 say comp_ser
                    @ line,50 say c_ptype + " - " + c_pnum
                    @ line,72 say first_name
                    line = line + 2
                    skip
                    if line > 20 .and. (last_name = lname;
                                .and. loc_code = "L")
                        @ 22,0 clear to 22,79
                        @ 22,12 say "Additional lab property"+;
                            " on file, press any key to continue"
                        wait" "
                        @ 7,0 clear to 20,79
                        @ 22,0 clear to 22,79
                        line = 7
                    endif
                else
                    skip
                endif
                if last_name <> lname
                    @ 22,0 clear to 22,79
                    @ 22,4 say "That is all"+;
                    " that is on file, press any"+;
                        " key to continue, or ESC to exit"
                    wait" "
                    clear
                endif
            enddo
```

```
                else
                    @ 22,0 clear to 22,79
                    @ 22,15 say "No lab components on file,"+;
                                " press any key to continue"
                    wait" "
                    clear
                endif
            enddo
        endif

    else
        clear
        release all
        close databases
        return
    endif ans not " "
    ans = " "
enddo
*EOF slocatio.prg
```

25. SOWNER.PRG

```
*********************   Program:  SOWNER.PRG   **********************
*
*Author.............:  TIM SEXTON
*Purpose............:  displays custodian's components and the
*                      location of the component, searches on last
*                      and first name
*Calls..............:  None
*Input/Output Files.:  None


clear
set confirm off
set headings off
select 3
use homes index l_fnames
select 2
use owners index names
select 1
use comps index name_loc
set relation to last_name + first_name into owners
finished = .f.
do while .not. finished
    choice = " "
    mlname = space(15)
    mfname = space(15)
    @ 0,18 say   "C O M P O N E N T   S E A R C H   S C R E E N"
    @ 1,0 to 1,79 double
    @ 21,0 to 21,79
    @ 22,27 say "To EXIT leave choice blank"
    @ 4,4 say "Choose a search for one of the following: :"
    @ 6,4 say "          1. Components assigned to a Custodian "
    @ 7,4 say "          2. Components of the AS DEPT "
    @ 4,45 get choice
    read
    do case
        case choice = " "
            clear
            release all
            close databases
            return
```

```
case choice = "1"
    @ 4,0 clear to 7,79
    set confirm on
    @ 4,0 say "Enter custodian's"
    @ 6,6  say "last name: " get mlname PICTURE  "@!A"
    @ 22,0 clear to 22,79
    @ 22,13 say "To exit leave custodians name blank"
    read
    if mlname = space(15)
        clear
        release all
        close databases
        return
    endif
    @ 22,0 clear to 22,79
    no_fname = .t.
    do while no_fname
        @ 7,5  say "first name: " get mfname PICTURE  "@!A"
        read
        if mfname = space(15)
            @ 22,0 clear to 22,79
            @ 22,24 say "Require at least a first initial"
            delay = 0
            do while delay < 25
                delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
        else
            no_fname = .f.
        endif
    enddo
    set confirm off
    select comps
    goto top
    set exact off
    seek mlname,mfname
    if found()
        @ 0,0 clear to 0,79
        @ 4,0 clear to 7,79
        @ 22,0 clear to 22,79
        line = 6
        @ 0,25 say "Custodian:  " + trim(mlname) + ", " + mfname
        @ 3,5 say "Mfg / Model"
        @ 4,5 to  4,15
        @ 3,35 say "Serial #"
        @ 4,35 to  4,42
        @ 3,52 say "Location"
        @ 4,52 to 4,59
        do while last_name = mlname .and. first_name = mfname
            @ line,2 say trim(c_mfg) + " / " + c_model
            @ line,35 say comp_ser
            do case
                case loc_code = "H"
                    select homes
                    seek mlname,mfname
                    @ line,52 say trim(street) + ", " + city
                otherwise
                    @ line,52 say owners-> location
            endcase
            select 1
            skip
            line = line + 2
            if line > 20 .and. (last_name = mlname .and.;
```

```
                                        first_name = mfname)
                    @ 6,0 clear to 24,79
                    line = 6
                endif
                if last_name <> mlname .and. first_name <> mfname
                    @ 22,0 clear to 22,79
                    @ 22,12 say "Nothing further on file,"+;
                                " press any key to continue"
                    wait" "
                    clear
                endif
            enddo
        else
            @ 22,0 clear to 22,79
            @ 11,8 say;
              " Either no property on file for this individual"
            @ 12,8 say  "                          OR"
            @ 13,8 say;
              " The name entered does not match what is on file"
            ?
            ?
            wait
            clear
        endif
    case choice = "2"
        @ 0,0 clear to 0,79
        @ 22,0 clear to 22,79
        @ 4,0 clear to 7,79
        @ 0,32 say "AS DEPT PROPERTY"
        mlname = "AS DEPT"
        select comps
        goto top
        set exact off
        seek mlname
        if found()
            line = 6
            @ 3,5 say "Mfg / Model"
            @ 4,5 to  4,15
            @ 3,35 say "Serial #"
            @ 4,35 to  4,42
            @ 3,52 say "Location"
            @ 4,52 to 4,59
            do while last_name = "AS DEPT"
                @ line,2 say trim(c_mfg) + " / " + c_model
                @ line,35 say comp_ser
                @ line,52 say owners-> location + first_name
                skip
                line = line + 2
                if line > 20 .and. last_name = "AS DEPT"
                    @ 22,0 clear to 22,79
                    @ 22,15 say "Additional property on file,"+;
                                " press any key to continue"
                    wait" "
                    line = 6
                    @ 22,0 clear to 22,79
                    @ 6,0 clear to 20,79
                endif
                if last_name <> "AS DEPT"
                    @ 22,0 clear to 22,79
                    @ 22,12 say "Nothing further on file,"+;
                                " press any key to continue"
                    wait" "
                    clear
```

```
                endif
              enddo
            else
                @ 22,0 clear to 22,79
                @ 22,12 say  " No property on file for the AS DEPT"+;
                        " press any key to continue"
                wait" "
                clear
            endif
        otherwise
            @ 22,0 clear to 22,79
            @ 22,17 say "Not a valid selection, please re-enter or"
            delay = 0
            do while delay < 25
               delay = delay + 1
            enddo
            @ 22,0 clear to 22,79
    endcase
enddo
* EOF sowner.prg
```

26. SUM_RPT.PRG

```
*********************      Program:  SUM_RPT.PRG        **************
*Author.............:  TIM SEXTON
*Purpose............:  prints three reports
*                      1. components  grouped by property type and
*                      number
*                      2. parts assigned to components grouped by
*                      property type and number
*                      3. parts that are not assigne to components
*                      (stock) grouped by property type and number
*                      involves creating temporary files that are
*                      erased after the reports are printed
*Calls..............:  TEMP1.FRM, PARTSTOK.FRM, PARTSUM.FRM,
*                      COMPS.DBF, PARTS.DBF,OWNERS.DBF
*Input/Output Files.:  none


    * This program will join the owners and components to allow
    * printing the summary property reports
set confirm off
set exact on
clear

select 1
use parts
select 2
use owners
select 3
use comps
do while .t.
    @ 0,20 say  "S U M M A R Y   R E P O R T   S C R E E N"
    @ 1,0 to 1,79 double
    @ 21,0 to 21,79
    @ 8,16 say "***********   SET UP THE PRINTER   ***********"
    @ 22,6 say "Standby while the files are joined for preparing"+;
                                                    " the property reports"
```

```
******* temp is used to join campus owner with component *******
    select comps
    join with owners to temp     for loc_code <> "H" .and. owners->;
        location <> "HOME" .and. last_name = owners->last_name .and.;
        first_name = owners->first_name

******* temp2 is used to join home owner with component ********
    join with owners to temp2    for loc_code = "H" .and. owners->;
        location = "HOME" .and.  last_name = owners->last_name .and.;
        first_name = owners->first_name

*************** temp2 is then appended to temp *****************
************** temp is used for component report ***************
    select 4
    use temp
    append from temp2
    index on  c_ptype + c_pnum to temp

************** temp3 is used for part report ******************
    join with parts to temp3 for comp_ser = parts->comp_ser
    select 5
    use temp3
    index on p_ptype + p_pnum to temp3
************** parts are indexed on type & num ***************
    select parts
    index on p_ptype + p_pnum to type_num
close databases
* check if printer is set up or allow abandon current operation
    done = .f.
    ready = .f.
    do while .not. ready
        @ 8,0 clear to 8,79
        @ 22,0 clear to 23,79
        @ 22,22 say "Is the printer ready for printing?: :"
        @ 23,22 say "     [ Yes / No / Abandon ]"
        ans = " "
        do while .not. ans $ "yYnNaA"
            ans = " "
            @ 22,57  get ans picture "@!A"
            read
        enddo
        @ 22,0 clear to 23,79
* if not ready wait and loop
        if upper(ans) = "N"
            @ 8,18 say "Press any key when ready to ready to continue"
            ?
            wait " "
            @ 8,0  clear to 8,79
        endif
        if upper(ans) = "A"
            ready = .t.
            done = .t.
        endif
        if upper(ans) = "Y"
            ready = .t.
        endif
    enddo not ready
    if .not. done
```

```
        clear
        select 1
        use temp index temp
        ************** do the component property type & number report
        report form temp1 to print
        select 2
        use temp3 index temp3
        ************ do the part property report
        report form partsum to print
        select 3
        use parts index type_num
        ************ do the stock part list
        report form partstok to print for comp_ser = space(10)
      done = .t.
   endif not done

   if done
       erase temp.dbf
       erase temp2.dbf
       erase temp3.dbf
       erase temp.ndx
       erase temp3.ndx
       erase type_num.ndx
       clear
       release all
       close databases
       return
    endif done
enddo
*eof sum_rpt.prg
```

APPENDIX C
PMS USER'S MANUAL

1. INTRODUCTION

This manual is designed to familiarize and serve as a reference for the Property Management System designed specifically for the Administrative Science Department. This system is written as an application program of dBase III plus, installed on an IBM PC XT located in Ingersoll 230. The Property Management System is menu driven, therefore there is no requirement to have a knowledge of dBase III plus. Additionally there is no real requirement for users to have a familiarity with the operation of an IBM microcomputer.

a. **Getting Started**

The first step in getting started is to take the system boot-up disk provided, inserting it into the floppy drive, then turning on the computer. Turning on the computer involves flipping the toggle switches on the right back side of the two system units, then turning the top switch on the front of the monitor. The printer need not be activated until prompted. If the system is tarted properly, after a minute or so, an initial license agreement screen for dBase III should appear. At this point depress the return key and commence the operation of the Property Management System. Your screen should appear identical to that of Figure C.1. If you're ready to continue, then as the screen says, press any key to continue.

If the system did not respond exactly as stated, or you receive any sort of error message at all, then it is likely that you used the wrong boot-up disk, or there is a system error. Check to see if the proper boot-up disk was used, if so alert the problem to the attention of the department supervisor for follow up investigation.

b. **Passwords**

After accessing the Property Management System your screen should appear exactly as Figure C.2, prompting you for your password. To utilize the Property Management System you must have an authorized password. The system makes use of two types of passwords to restrict the access to the system. A restricted password allows read-only access, which permits searching the existing records and printing reports. An unrestricted password allows you to enter, delete, or modify new or existing property records.

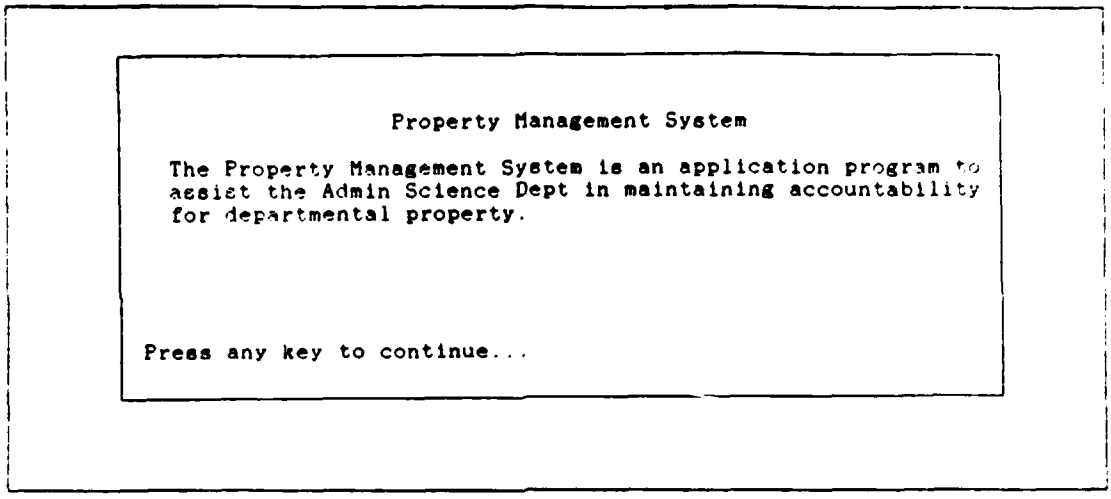


Figure C.1 Initial PMS Screen.

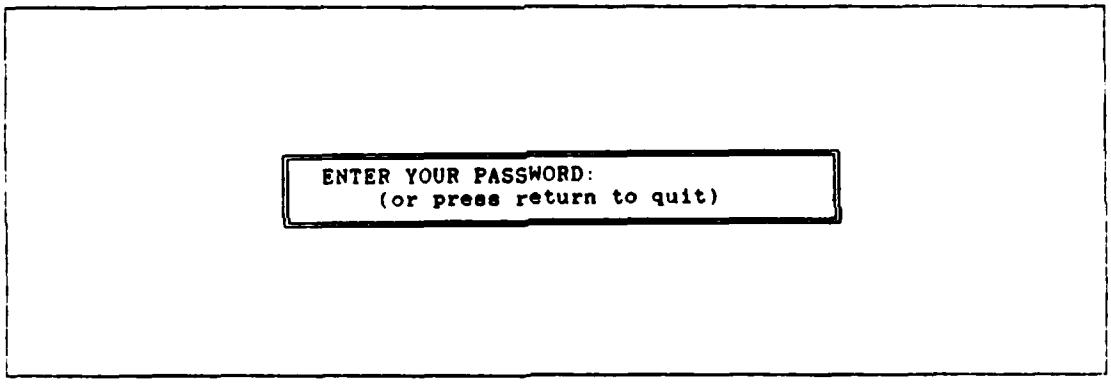


Figure C.2 Passwords.

You will note that the characters are not echoed back to you on the terminal as you type them. This is an added security feature and not a defect in the system. Should you incorrectly enter your password, or the password is not valid, you will momentarily see an error message on the screen. After the error message simply re-enter your correct password. There is no limit to the number of times you may enter an incorrect password, but without a correct entry you will not progress past this point.

If you are certain you have correctly entered your password and are still being denied access, then you must verify with proper authority that your password is indeed

valid. To exit the system from this point, depress the return key and you will return to MS DOS. Turning the computer off is also an alternative and will not impair the program.

Trying to access restricted operations without a proper password will cause an error message. You must re-start the system and log on with a proper password to access these operations.

2. PROPERTY MANAGEMENT SYSTEM OPERATIONS

After entering a correct password the next screen you will see should be that of Figure C.3. With restricted access you may perform either of the first two listed operations. You may also make use of the on-line help facility by simply typing "H". An unrestricted password will allow you to perform any of the listed operations. If you choose to exit the system, typing a "0" will terminate the Property Management System and exit you to MS DOS, and the computer may be turned off, or used for another application.

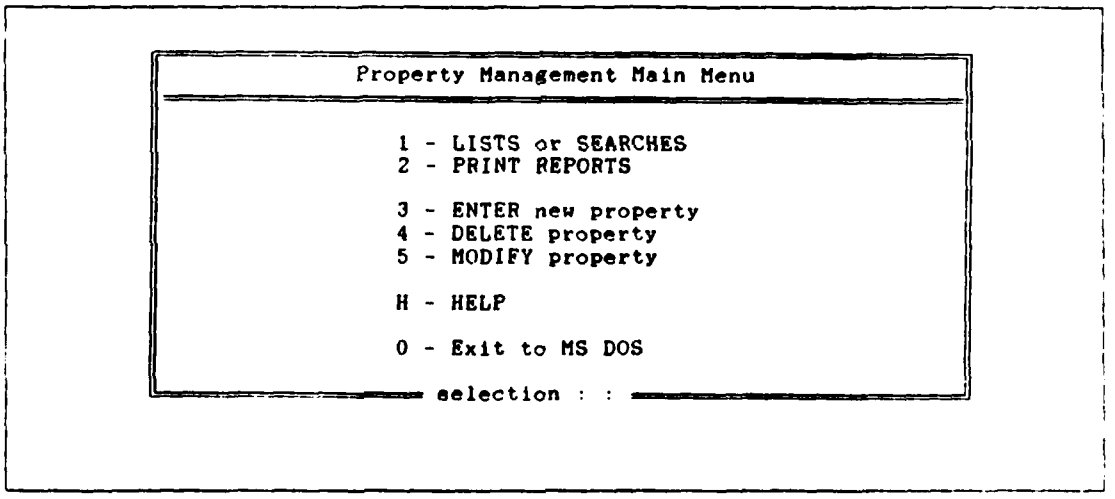


Figure C.3 Main Menu.

a. Help

All menus throughout the entire program have a Help option as one of the choices. To select this option type an "H" as your selection. Selecting this will provide valuable information pertaining to the choices on the current menu screen. Help is

automatically exited when you have paged through all the information. You may exit prior to that by using the ESCape key.

b. **Lists or Searches**

If you desire a list of property, a sub-set of property, or to search for a specific item, then select "1" from the main menu. The List and Searches Menu will next be displayed on your screen (Figure C.4).

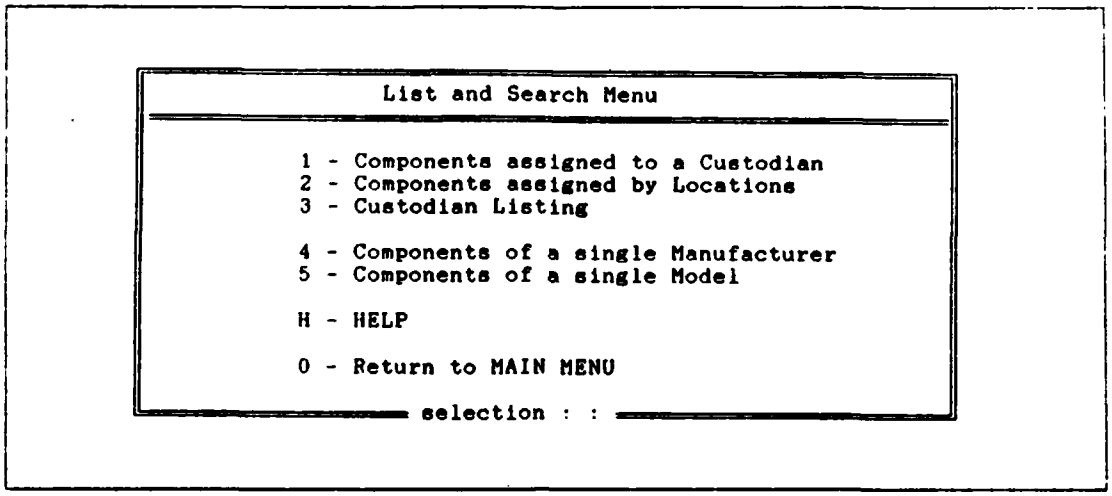


Figure C.4 List and Search Menu.

This menu displays all the available choices under this category. You may make any selection you choose. Typing a "0" will return you to the main menu.

1. Components Assigned to a Custodian

This option will allow you to search for components by assigned custodian, or components with the AS DEPT as custodian.

Entering a "1" for custodian search, from the Component Search Screen (Figure C.5), you will be prompted for last name of the custodian of interest.

By depressing the return key, you return to the List and Search Menu. To perform a search by custodian the name must be entered as kept on file. (If you have some doubt about this, use the Custodian Listing option from the List and Search Menu).

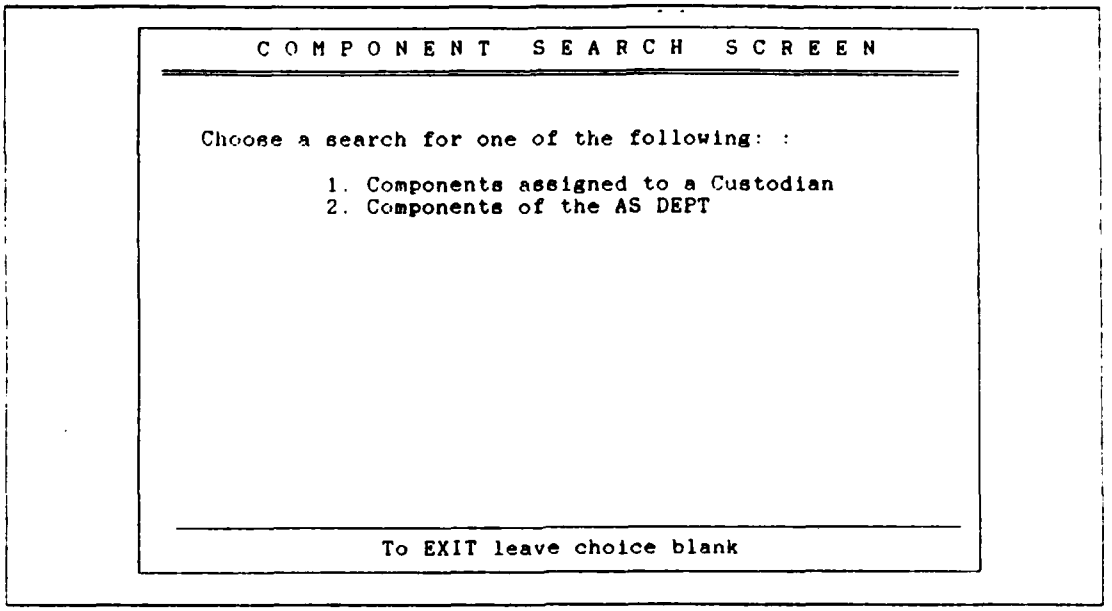


Figure C.5 Component Search Screen.

Entering a "2" for AS DEPT component search, from the Component Search Screen (Figure C.5), will immediately provide you with a list of components sorted by location that the AS DEPT maintains direct responsibility (lab and storage property).

2. Components assigned by Locations

Selecting "2" from the List and Search Menu (Figure C.4), allows you the option of selecting a list of all components by their physical locations by making a selection from the menu choices of Home or Office, Storage, or Lab.

3. Custodian Listing

This selection provides a listing of all custodians and the locations that they have property on file: either their office or home address. Figure C.6 shows a sample output screen of this selection.

This selection is useful to verify that a custodian owns property and to see the way their name is kept on file. The names are shown a screen at a time alphabetically. Follow the prompts at the bottom of the screen to continue through the listings, or to exit and return to the Listing and Searches Menu.

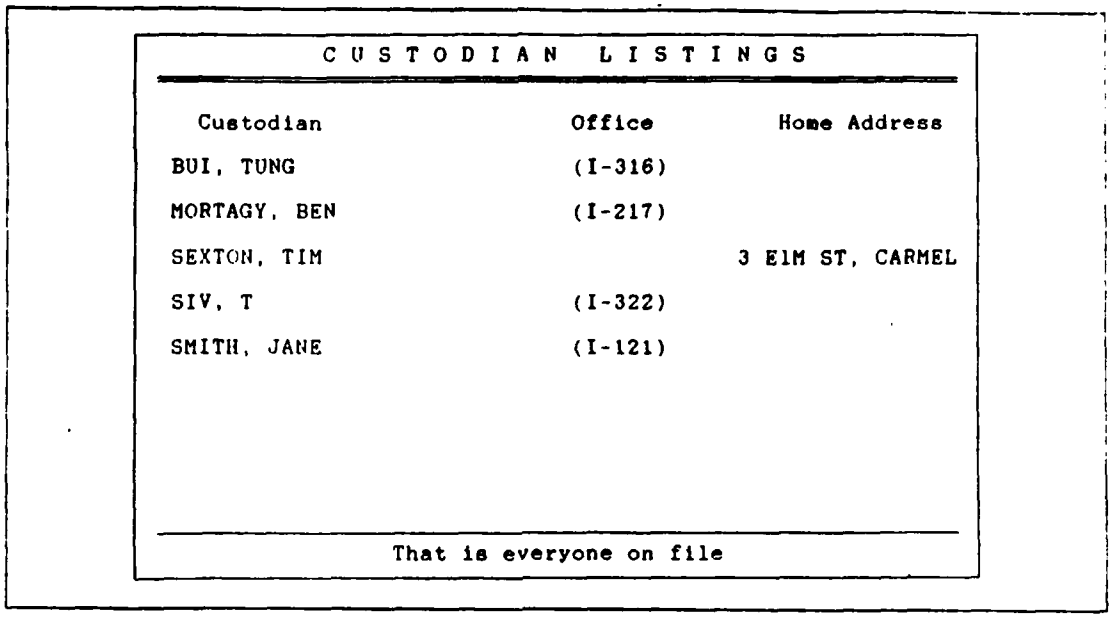


Figure C.6 Custodian Listing Screen.

4. Components of a single Manufacturer

This selection allows you to get a listing of all components on file for a single manufacturer. When prompted, type in the mfg and a list of components will be provided as shown in Figure C.7 The list gives you the model, description, custodian, and the location of each component on file for this particular mfg.

The components are listed a screen at a time, you can continue through the entire list or return to the List and Search menu by following the instructions at the bottom of the screen.

5. Components of a single Model

This selection allows you to get a listing of all components on file for a single model. This selection is similar to that of the list of components by manufacturer. The same information is provided, but the list may include more than one mfg.

c. **Property Reports**

There are two formatted reports provided by the Property Management System, a Quarterly Report and a Summary Report. To reach the Print Reports Menu, enter a "2" at the Main Menu.

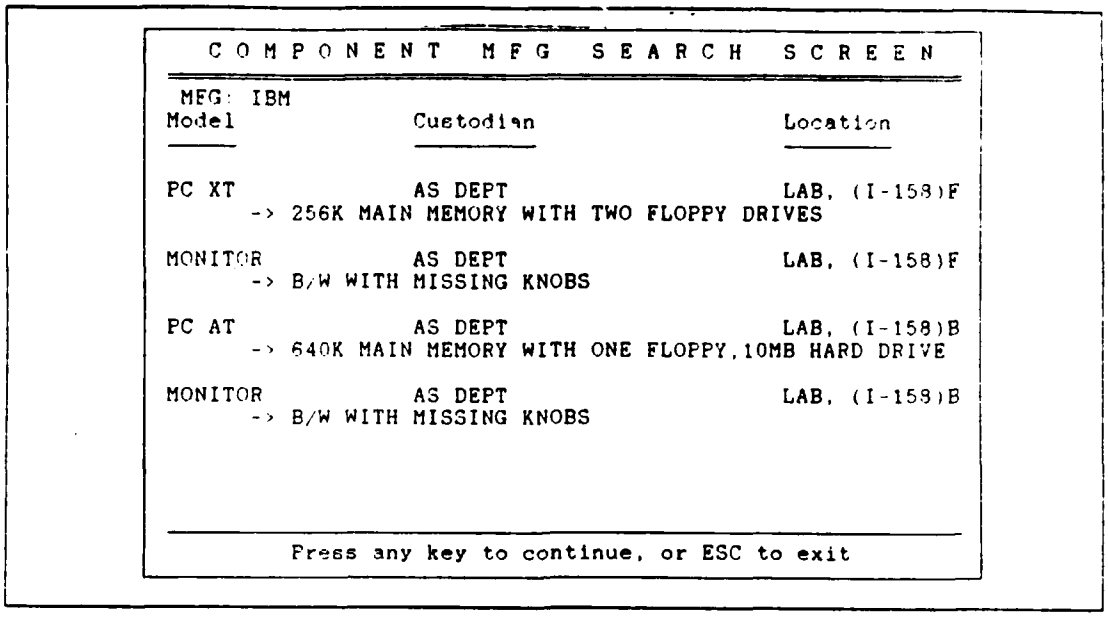


Figure C.7 Mfg Search Screen.

1. Quarterly Report

This report is a three part report used for verification of the status of the property on file.

1. The component report - this will give a listing of all components sorted by custodian. It will provide the mfg, model, description, mfg serial #, and the location of each component.
2. The part to component report - this will give a listing of all parts assigned to a component sorted by custodian and location. It will provide the model,serial #, and description of each part assigned to a particular component.
3. The stock part report - this will provide a list of all parts in stock that have not been assigned to a component.

Figure C.8 shows the screen after selecting the Quarterly Reports option. You will be prompted to turn on the printer as the files are being combined to print the report. Once the files are ready you will be asked if the printer is ready, answer the appropriate response to the question at the bottom of the screen. If you are not ready the system will wait until you are, or you decide to abandon the report.

* NOTE: You can exit the Quarterly Report selection at any time as long as the system is not told the printer is ready and it really is not. This may cause a lock up, and you will have to re-start the program, no damage should occur by

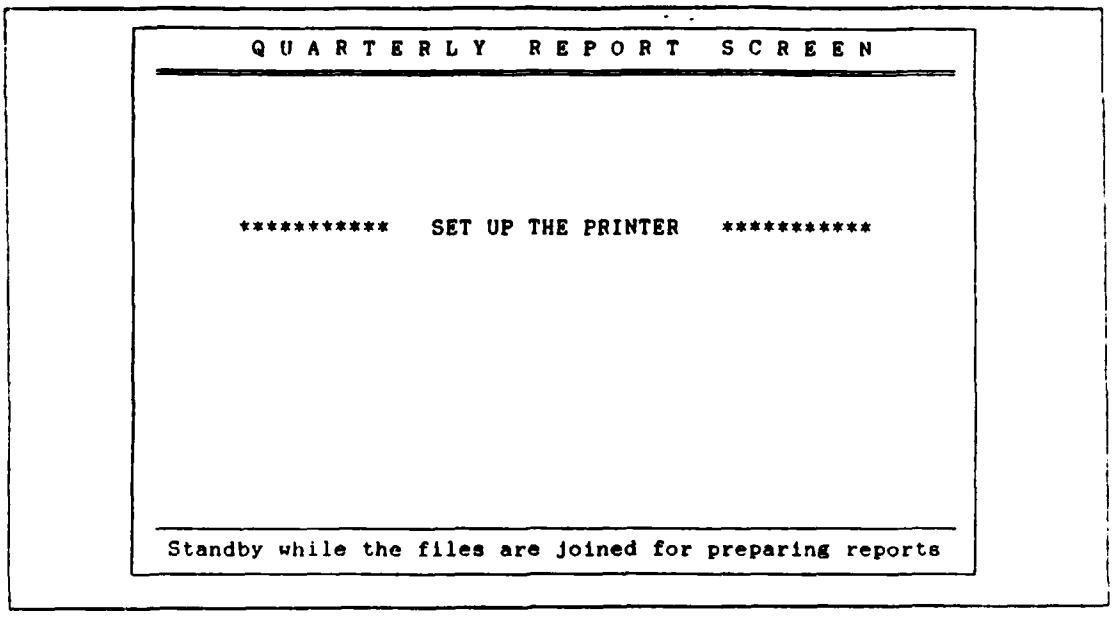


Figure C.8 Quarterly Report Screen.

shutting off the computer but it is recommended that you avoid this if at all possible. To exit without completion of the report, type "ESCape", this will abandon the reports and return you to the Reports Menu.

2. Property Summary Report

The Property Summary report is also a three part report. These reports are to be used for inventory purposes to maintain accountability of department property, providing a listing of property on file sorted by Property Type and Property Numbers.

1. The component report - this will give a listing of all components sorted by property type and number. It will provide the mfg, model, mfg serial #, custodian and the location of each component.
2. The part to component report - this will give a listing of all parts assigned to a component sorted by property type and number. It will furnish the model, description, custodian, and location of each part assigned to a particular component.
3. The stock part report - this will provide a list of all parts in stock that have not been assigned to a component, sorted by property type and number.

The procedure for printing the Property Summary report is the same as that of the Quarterly report. See the directions in that section if you have any doubt in generating these reports.

d. **Enter New Property**

Property is entered as a part or a component. These are the two selections available from the Enter Property Menu. Parts are items such as cards, boards or hard disks that are used in components.

1. Component Entry

Figure C.9 shows a typical component entry. Enter the appropriate information as the fields appear. Once a field entry is made you may need to depress the return key to progress to the next entry. The designated use and property type fields are the exceptions. These require only entering the first letter of the choices displayed. After all entries are made you will be given the opportunity to correct mistakes. It is important that you review each field to ensure they are correct. Once you tell the system that the entries are correct, this component is placed on file. If for some reason an improper component record is placed on file you may use the modify or delete selections from the Main Menu to correct or delete the entry.

```
        C O M P O N E N T   E N T R Y   S C R E E N

Enter Component Information:                          date:06/26/87
              mfg:  IBM
            model:  PC XT
        serial #:  123456789012345
      description:  256K MAIN MEMORY WITH TWO FLOPPY DRIVES

   designated use:  O (Office / Lab / Storage / Home)
       Custodian
        last name:  BUI
       first name:  TUNG
           office:  (I-316)



    property type:  P (Plant / Minor / Other)
      property #:  1234567899

            price: $ 1,234.00
          reqn #:  7123-7199/R7SC1

            Is the above information correct?: :
                  [ Yes / No / Abandon ]
```

Figure C.9 Component Entry Screen.

Several of the fields are required entries. Mfg is required or you will return to the Enter Property Menu. Other required entries are serial #, designated use, and

the property type. Dependent upon choices associated with these entries, several other entries may be required.

The serial # field is for the mfg serial #, this is a very important and required entry. Care must be taken when entering the serial # since this is the field that maintains a components identity, making it unique. Ensure this entry is correct.

There are four categories of component use. Storage components are assigned to the AS DEPT and will require no further related entries. Lab components are also assigned to the AS DEPT, and you are required to choose one of the four department lab locations. Office and Home use are used for custodian assignments. You will be required to enter the custodians last name, and if the custodian is on file you will need not enter any further custodian information. If they are not on file then you will be required to enter a first name and the appropriate location information. To take care of the situation of two custodians with the same last name, you will be requested to verify the custodian that is on file. This should also prevent entering a custodian twice with two different variations of their name. Remember however that it is possible to have two custodians with the same last name. No exception is made for two custodians with the same last and first names, if this situation ever occurs the only way to distinguish them will be on location.

There are three property type classifications. "P" is for plant property, "M" is for minor property, and "O" is for other than plant or minor property. Plant and Minor property will require an associated property number. This is also an important field, which will provide the accountability of the department property within NPS guidelines. Care should be taken when entering this field.

* NOTE: If the situation ever arises that you do not know the proper information for a required field entry, do not worry. Simply enter any accepted entry, and abandon the entry when you reach the point in Figure C.9. On the other hand, if an incorrect choice was made at some point, you may make the appropriate corrections instead of abandoning the entry. Care should be taken never to file a false or incorrect record.

2. Part Entry

Figure C.10 shows a typical part entry. As with the component entry the entering procedures are the same. To enter a part, you first enter the model which is required, then the part serial # and description, both are optional. At this point you are asked if this part is for stock or to be used in a component. Stock entries are assigned

to the AS DEPT and require no related entries. A part assigned to a component will require that the component serial # be entered. These two entries are required. Property type is also a required entry. Plant and Minor property will also require a property number. Price and reqn # are optional entries.

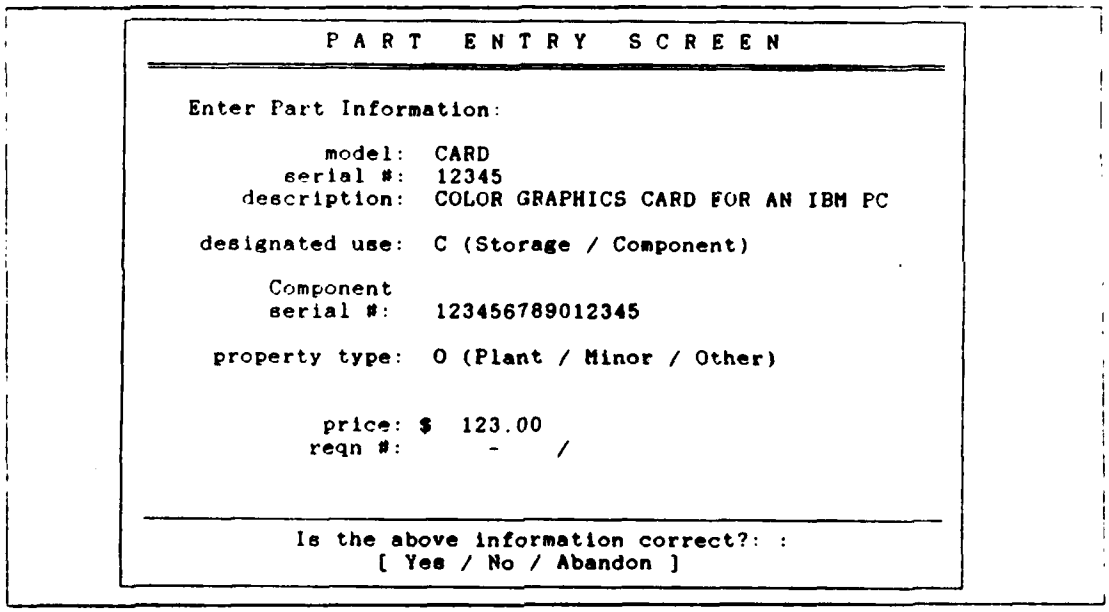


Figure C.10 Part Entry Screen.

* NOTE: It is important that the component serial # is accurate. A search of all components on file will let you know if this component is not on file. If not on file and the serial # is correct you must enter the component first. If you entered it incorrectly you will be allowed to re-enter it.

e. **Delete Property**

To delete property select this option from the Main Menu. This will display the Delete Property Menu, you may delete either a part or a component.

1. Component Deletion

To delete a component you must know the component serial #. Enter the proper serial # and you will be shown the component on file with this serial # (Figure C.11). You must verify that this is the correct component. If it is not then check the serial #, no two components should have the same serial #. If the component is correct then the files are checked to see if parts are on file for this component.

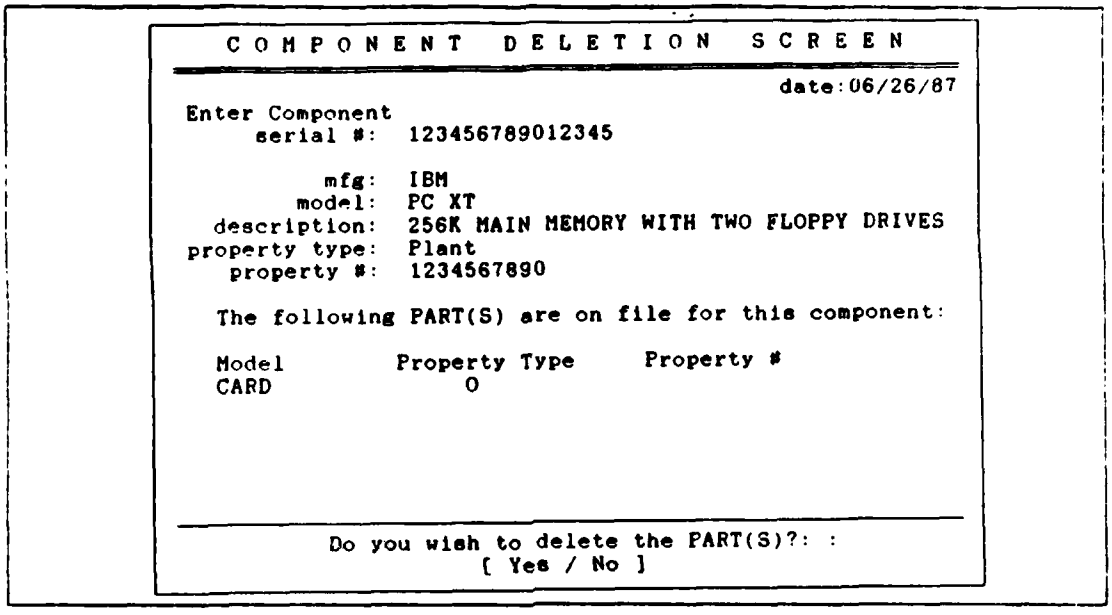


Figure C.11 Component Deletion Screen.

If parts are on file for this component, you cannot delete this component if you do not wish to delete the parts. You will have to reassign the parts using the modify selection from the Main Menu. If there are no parts, or you want to delete the parts as well, then answer yes when you are questioned if you wish to delete this component. Be careful when deleting components and parts, once deleted there is no means of recovering this information.

2. Part Deletion

Since parts can be assigned to stock or to a component, to delete a part you must know how a part is being used to delete it. A component part requires that you know the serial # of that component. Enter the component serial #, like a component deletion the files are searched to see if this component is on file. You will have to verify that the component is correct to continue.

If the component is found or if this is a stock part, you are then asked to fill in if known: the part model, part serial #, part property type, or part property number. If you do not know the proper information depress the return key. Depending on the information provided a list of parts will be displayed for you one at a time to determine if it is the correct part or not (Figure C.12).

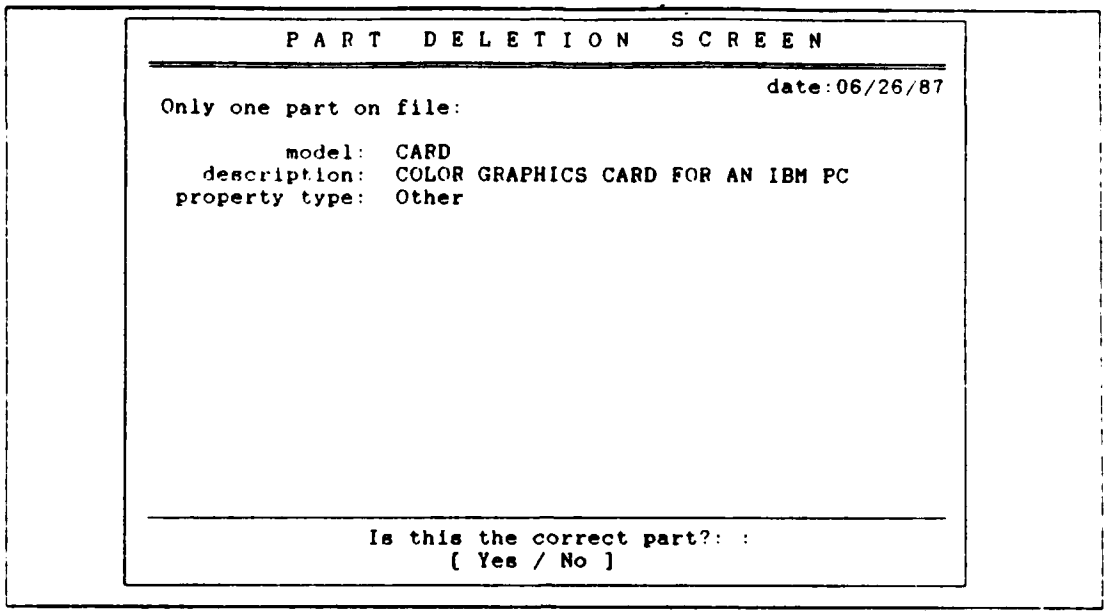


Figure C.12 Part Deletion Screen.

If no parts are found meeting these constraints then a message will tell you that your part cannot be found and may not be on file. Check the property reports to see if your part information is indeed correct, if so the part probably was previously deleted.

f. **Modify Property**

To modify a property record (either part or component), select this option from the Main Menu. A menu screen will appear for you to choose from the available options (Figure C.13). The selections are explained under the next 3 sub-sections.

Component records have two different modify operations. If you wish to reassign a component to a new custodian or location select option "1". To modify the other than assignment fields, such as price or property number, choose selection "2". The modify record option will be used to correct mistakes after entry. There is only one modify option for parts, which allows reassigning the part or changing all fields.

1. Modify Component Custodian or Location

Selecting this option from the Modify Menu you must enter the component serial # or return to the Modify Menu. If the component is on file you will be asked if this is the correct component (Figure C.14).

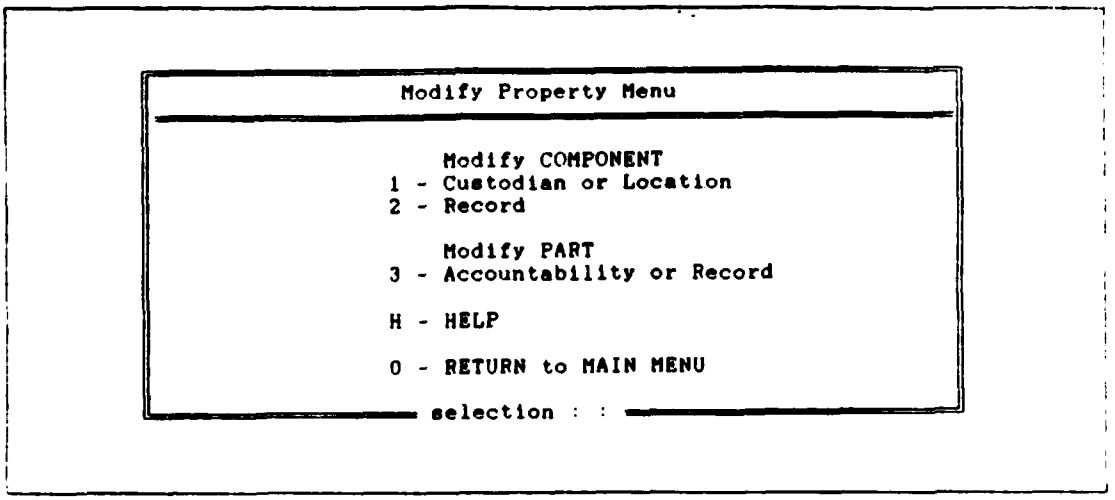


Figure C.13 Modify Property Screen.

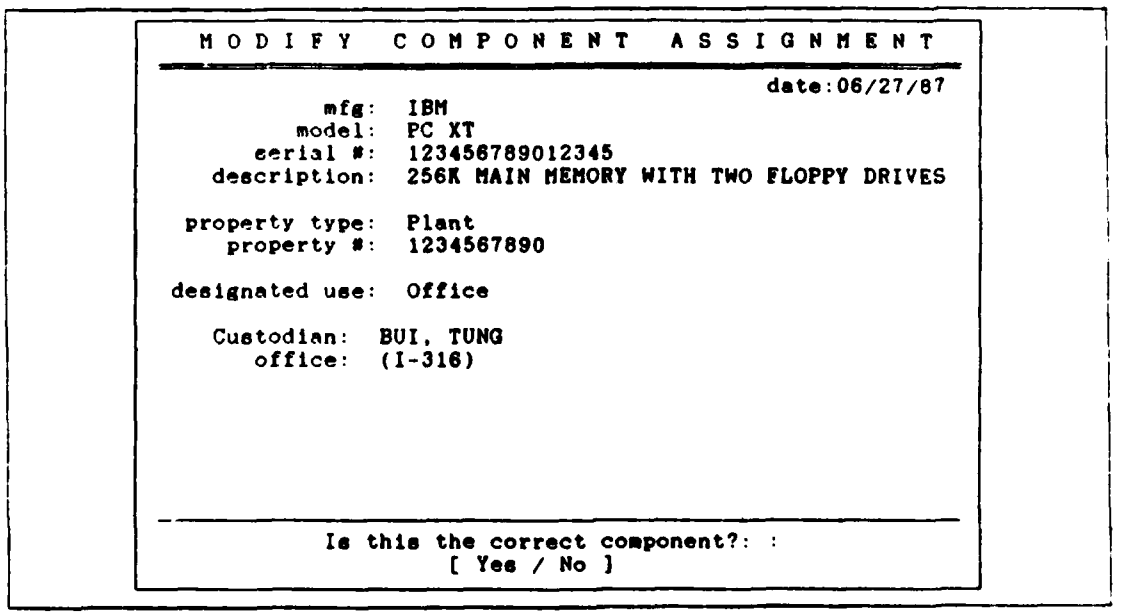


Figure C.14 Modify Component Assignment Screen.

If this is the correct component you may then modify the designated use and reassign the component to a new custodian, location, or both. Figure C.15 is a sample reassignment.

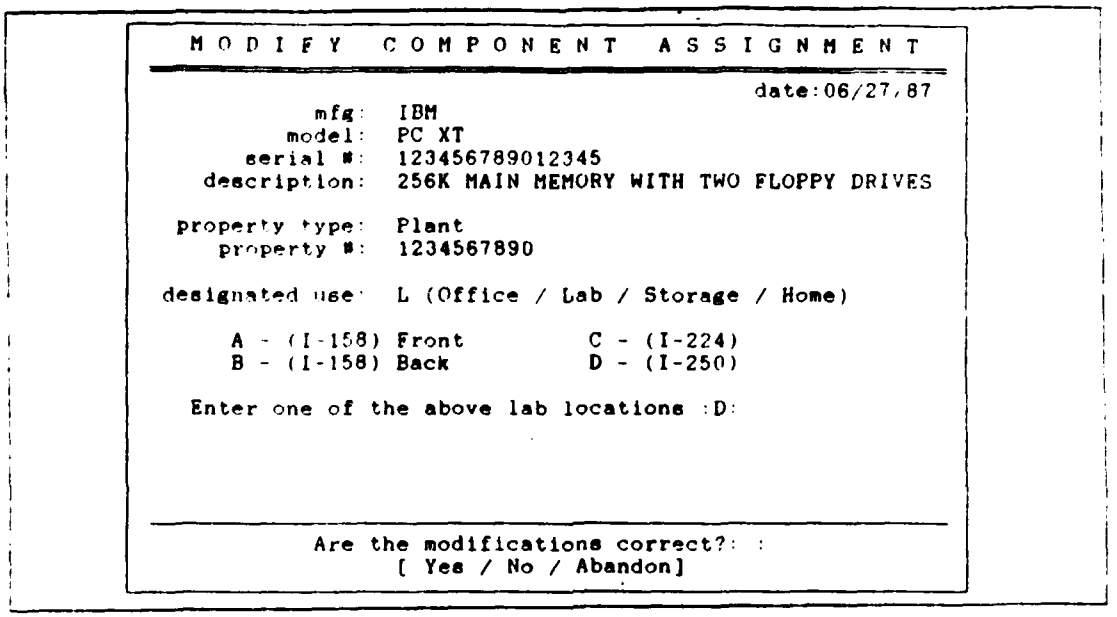


Figure C.15 Sample Component Reassignment.

If the modifications are correct then you may file this component record with the new changes. If you made a mistake you may try again or abandon the modifications with no changes having been made.

2. Modify Component Record

Selecting this option from the Modify Menu you must enter the component serial # or return to the Modify Menu. If the component is on file you will be asked if this is the correct component. Figure C.16 is a representative display screen and will be used as an example for this section.

If this is the correct component you may then modify the fields not associated to the designated use, custodian, or location. Figure C.17 is a sample modification, note the difference in the component description. Each field that modifications are allowed, will be displayed one at a time with the original information. Make the required changes or hit the return key to leave the original entry as is.

If the modifications are correct then you may file this component record with the new changes. If you made a mistake you may try again or abandon the modifications with no changes having been made.

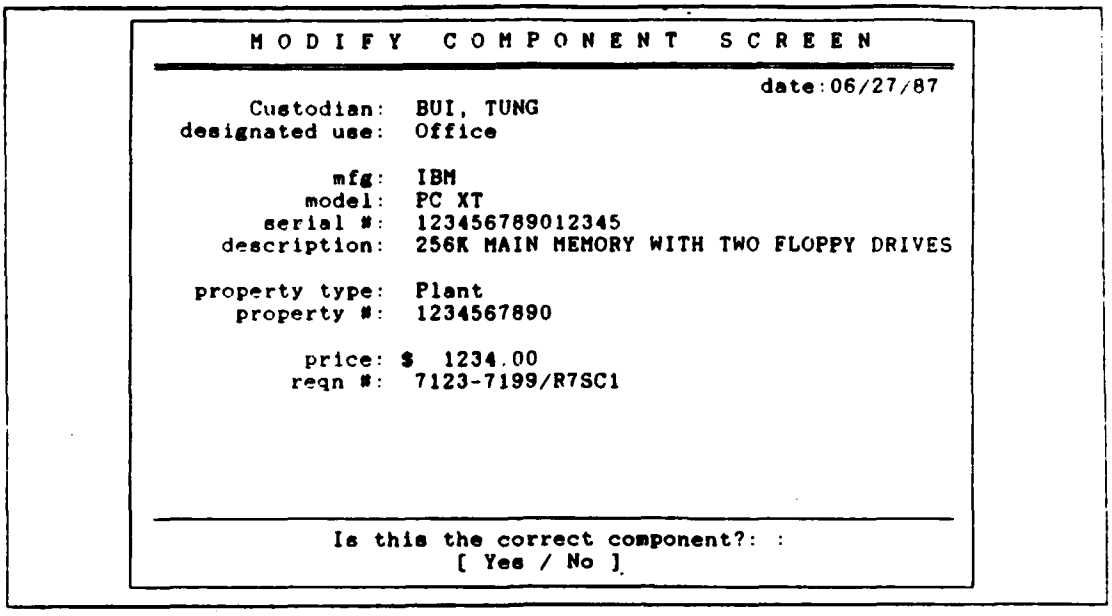


Figure C.16 Modify Component Screen.

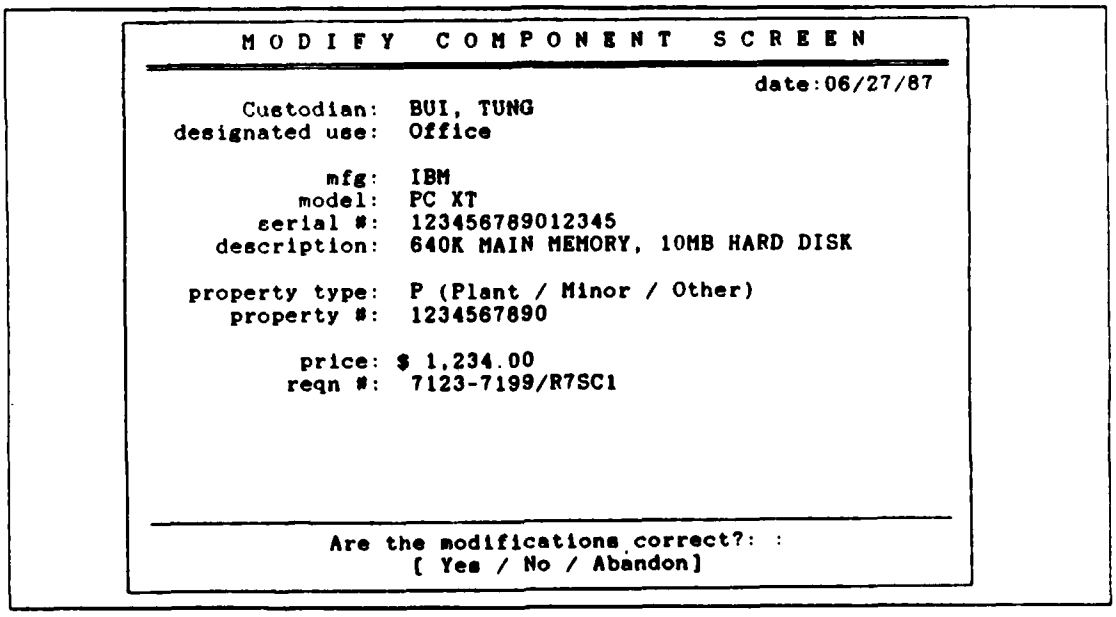


Figure C.17 Sample Component Modification.

3. Modify Part Accountability or Record

Parts are assigned usage to stock or to components. If this is known then enter the appropriate entry. To allow for the occasion when this is not known, such as a mistaken entry, an additional option is given for part modifications. Figure C.18 displays the initial Modify Part Screen.

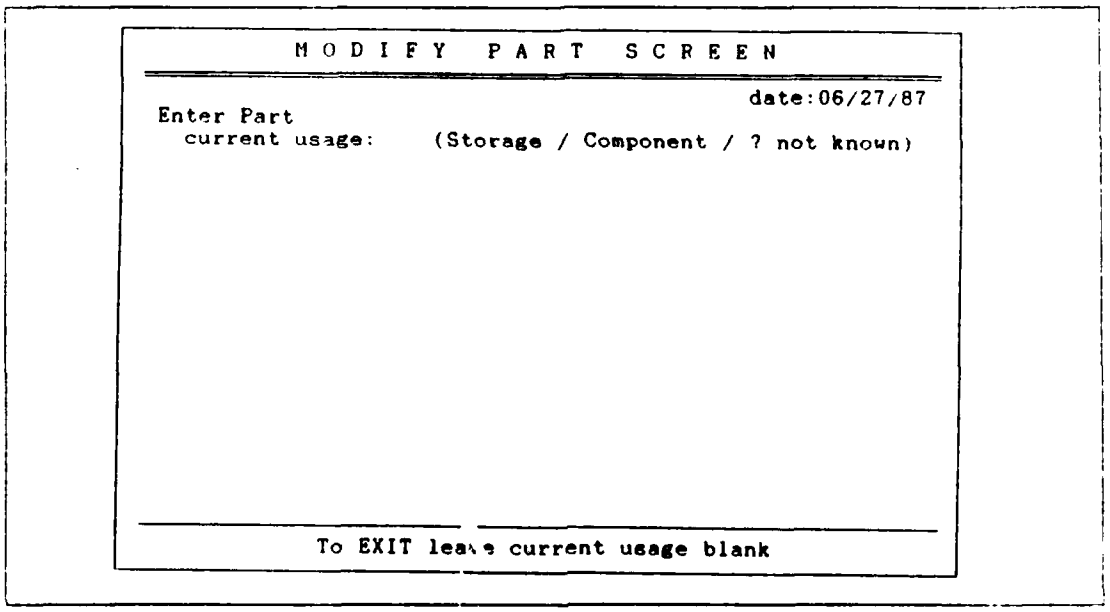


Figure C.18 Modify Part Screen.

If the part is assigned a component then you are asked to enter the component serial #. If the component is found, or if this is a stock part, or if the usage is not known, you are then asked to fill in if known: the part model, part serial #, part property type or part property number. If you do not know the proper information enter a return. Depending on the information provided, a list of parts will be displayed for you one at a time to determine if this is the correct part or not (Figure C.19).

If this is the correct part, you may then make the required changes. Each field is presented to you, one at a time, with the original entry. Make the appropriate modifications, or hit the enter key to leave the entry unchanged. Once all the fields have been presented you must reply that they are correct. If the changes are not

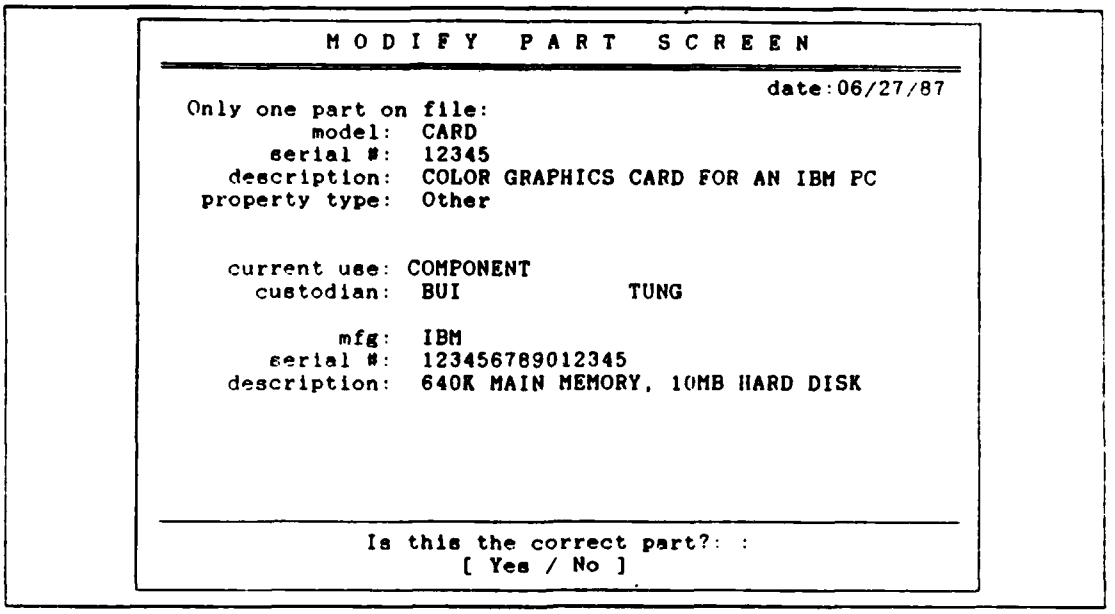


Figure C.19 Sample Part Modification.

correct then you can re-edit them or abandon the modifications leaving the original part record as first entered. No changes will be filed until you wish to file them.

3. SPECIAL OPERATIONS

This section will cover operations not covered in the previous sections. The operations covered in this section will help maintain the system, and provide for ease of use.

a. General Editing

Normally the keyboard is in the overwrite mode. You may depress the INSert key to allow inserting characters if you wish. You must be careful when using the backspace or arrow keys, it is possible to find yourself outside of the entry field. This really does not cause a problem, but may be a little inconvenient, requiring you to circle around to that field again. There is no reason to use the Pg Up or Pg Dn keys, these will definitely take you outside the field of interest. The only exception to these problems are when you are forced to make a selected entry (eg. Yes / No).

b. **ESCape**

This key allows you to return to a previous menu in many instances. Do not to use this key if you are not given the option to do so. Using this key indiscriminantly may leave files open, possibly causing errors. Using ESCape when not an option may also cause you to use the enter key when not normally required.

c. **Printing**

Printing is normally accomplished with the Print Reports option from the Main Menu. Ensure there is paper in the printer and that the printer is turned on. It is possible to get a printing of a particular screen by depressing the shift key and PrtSc key simultaneously. Avoid doing this if the printer is not set up for printing.

d. **Backups**

No system is infallible, therefore a system backup is to be maintained by the department supervisor. Additionally the files must be backed up so that the information need not be re-entered if there is some sort of failure. The data files will be copied automatically if the system is exited normally from the Main Menu. The entire application cannot be copied onto a single disk, so the database (dbf) files will only be copied. In case of a loss of database files, the supervisor will see to it that a knowledgeable dBase III plus programmer re-create the system to normal operation.

e. **Exiting**

To exit any menu enter a "0", this will return you to the calling menu. At the Main Menu this will return you to the microcomputer operating system (MS DOS) after making copies of the database files (the system boot-up disk must be in the floppy drive). This is the normal procedure for system exiting, you should not turn off the computer until returned to the MS DOS prompt: C>.

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